

REMARKS

I. The Reason for this RCE

A Notice of Allowance was mailed to the undersigned on 25 June 2006. During a review of the file in advance of payment of the Issue Fee, it was discovered that several prior art documents relied upon by the examiner of the parent application (i.e., USSN 09/034,836, of which the instant application is a divisional as the result of a PTO restriction requirement) were inadvertently and unintentionally not brought to the attention of the examiner during the prosecution of the instant application. As a result, Applicants are filing this RCE, including an IDS citing the prior art relied upon by the examiner of the parent application. Moreover, the IDS includes a copy of each of the various office actions on the merits for USSN 09/034,836, as well as Applicants' various amendments in response to those office actions. Also provided below are remarks in support of the patentability of Applicants' claims over this prior art.

II. The Pending Claims and the Amendments to the Claims

With the entry of the amendment set forth above, Claims 22-50 are pending. Claim 22 is the only pending independent claim. There are no amendments to Claims 22-46.

New Claim 47 depends from independent Claim 22 and recites the third layer of the multilayer film as comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, and that the fourth layer of the multilayer film comprises at least one member selected from the group consisting of polyester having a melting point of at least 190°C, polyamide, and polyurethane. Support for 42941-02.A05

Claim 47 can be found in the specification at, for example, page 26 lines 3-10 and page 27 lines 19-25.

New Claim 48 recites the multilayer film as further comprising a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH. Support for Claim 48 can be found in the specification at, for example, Page 5 lines 11-14.

New Claim 49 recites the multilayer film as further comprises a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer. Support for Claim 49 can be found in the specification at, for example, page 5 lines 11-20 and page 29 lines 15-20.

New Claims 50 and 51 depend from different claims, but each recites the fourth layer as comprising polyester having a melting point of at least 190°C. Support for claims 50 and 51 can be found in the specification at, for example, page 27 lines 19-25.

The amendments include no new matter.

III. Remarks in Support of Patentability of Claims 22-51

Applicants point out that each of Claims 22-51 is directed to a process including the steps of stacking at least a first and second bagged products on top of one another and thereafter sealing the bags so that the each product is completely sealed within its respective bag, the sealing being carried out at a temperature so that the resulting packaged products can be freely

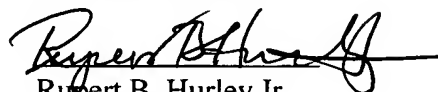
separated from one another without layer delamination. None of the various prior art documents included in the IDS submitted herewith teaches or suggests a stack sealing process. Accordingly, the prior art identified in the accompanying IDS does not set forth an anticipation of any one or more of Claims 22-51.

Moreover, in the parent application the PTO issued a restriction requirement. In issuing the restriction requirement, the PTO has taken the position that the film claims (examined in the parent application) are patentably distinct from the process claims. As such, all claims directed to the process are patentably distinct (i.e., patentable over) all prior art which teaches or suggests the film claimed in the parent application, so long as that prior art does not also teach or suggest the steps utilizing the packaging process recited in the patentably distinct process claims. In other words, in issuing the restriction requirement the PTO has gone on record with the position that the process claims, as filed in the parent application, are patentably distinct from the film claims, as filed in the parent application. Not only does this position limit the utility of art which does not teach or suggest the recited process steps, it also bars a double patenting rejection of the process claims over the article claims. Finally, Applicants further note that new Claims 47-51 recite various features placed into the independent Claim 1 of the parent application, which was granted as USPN 6,610,392 B1 on August 26, 2003.

IV. Conclusion

Applicants respectfully request entry of the above amendments to the claims, and consideration of the patentability of claims 22-51, with a view towards allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rupert B. Hurley Jr.", written over a horizontal line.

Rupert B. Hurley Jr

Reg. No. 29,313

(864)433-3247

August 24, 2006

5/27/99
Polyester
OCT 02 2006
PATENT & TRADEMARK OFFICE

COPY



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO. 09/034,032	FILING DATE 02/04/99	INVENTOR RAMESH	FIRST NAMED INVENTOR R	ATTORNEY DOCKET NO. 40291
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RUPERT B HURLEY
W R GRACE AND CO CONN
P O BOX 464
DUNCAN SC 29334
ENTERED BY LISA
MAY 13 1999.

QM21/0506
MAY 10 1999

JENSEN, S EXAMINER

ART UNIT PAPER NUMBER

DATE MAILED: 05/06/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



Office Action Summary

Application No.
09/034,836

Applicant(s)
Ramesh et al.

Examiner
Steven Jensen

Group Art Unit
3721



☒ Responsive to communication(s) filed on Mar 4, 1998

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 1 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-27 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☐ Claim(s) _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims 1-27 are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 3721

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-19, drawn to a heat-shrinkable film, classified in class 428.
 - II. Claims 20 & 21, drawn to a bag with a heat-shrinkable film, classified in class 383.
 - III. Claims 22-27, drawn to a process of packaging a heat-shrinkable film, classified in class 53, subclass 469.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a wrapper and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

Art Unit: 3721

anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Further, the inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination further includes a bag with a first layer of the film sealed to the bag. The subcombination has separate utility such as for wrapping stacked products.

3. Inventions I/II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in a materially different process such as one that does not include the steps of stacking and heat sealing.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Art Unit: 3721

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Jensen whose telephone number is (703) 305-0304.

sj

April 30, 1999


JOHN SIROS
PRIMARY EXAMINER

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I HEREBY CERTIFY THAT THIS CORRESPONDENCE
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COMMISSIONER OF PATENTS AND TRADEMARKS,
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June 3, 1999
Rupert B. Hurley Jr.
Rupert B. Hurley Jr.
Registration No. 29,313
June 3, 1999
DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et al

Docket No. 42941-01

Serial No : 09/034,836

Group Art Unit: 3721

Filing Date: March 4, 1999

Examiner: Jensen, S.

For: HEAT-SHRINKABLE MULTILAYER PACKAGING FILM COMPRISING INNER
LAYER COMPRISING A POLYESTER

ELECTION UNDER 37 C.F.R. 1.146

Honorable Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

This Preliminary Amendment and Election is filed in response to the communication mailed May 6, 1999, the 1-month period for response being set to expire on June 6, 1999. As this election is being filed on or before June 6, 1999, no extension of time is believed to be necessary. However, in the event that an extension is deemed to be necessary, Applicants request that such extension be granted, and Applicants authorize the Commissioner to charge Applicant's Deposit Account No. 07-1765 in the appropriate amount. In addition, in the event that any further fee or credit is deemed to be necessary,

42941.A01

Applicants further authorize the Commissioner to charge/refund Applicants' above-identified Deposit Account in the appropriate amount.

REMARKS

In the May 6 Office Action, it is stated that the claims pertain to three inventions:

GROUP I: Claims 1-19, drawn to an article comprising a heat-shrinkable film, classified in Class 428;

GROUP II: Claims 20 and 21, drawn to a bag with a heat-shrinkable film, classified in Class 383; and

GROUP III: Claims 22-27, drawn to a process of packaging a heat-shrinkable film, classified in Class 53, subclass 469.

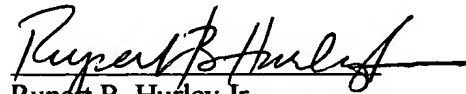
It is further stated that the inventions are distinct, each from the other because the inventions of Groups I and II are related as mutually exclusive species in intermediate-final product relationship, and distinctness is proven for claims in the relationship if the intermediate product is useful to make other than the final product, and the species are patentably distinct. The Office Action goes on to state that the intermediate product is deemed to be useful as a wrapper and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

In response, Applicants elect Group I. However, Applicants point out that the claims of Group III are drawn to a process of packaging *a product*, rather than a process of packaging a heat-shrinkable film. Applicants further point out that the bag of Group II comprises the film of Group I, and that the packaging process of Group III utilizes the bag of Group II. Applicants acknowledge that the Office Action states that the inventions of Groups I, II, and III are patentably distinct with respect to one another. Applicants point out that the statement in the Office Action that the subject matter of Groups I, II, and III are distinct is an admission by the PTO that these various subject matters are nonobvious over one another, i.e., that it is nonobvious to make a bag from the film, and that it is nonobvious to package a product in the bag. Applicants do not disagree with this position.

Finally, Applicants direct attention to the Supplemental IDS filed September 21, 1998, which cites JP 60-232948. Applicants are in the process of obtaining a translation of this document, which will be filed upon receipt by Applicants.

Should there be any questions or comments concerning any of the above, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully Submitted,

A handwritten signature in cursive script, appearing to read "Rupert B. Hurley Jr.", written over a horizontal line.

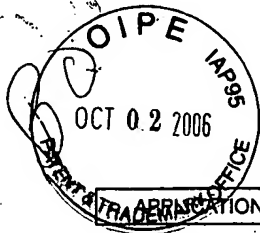
Rupert B. Hurley Jr.

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Attorney for Applicants

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May 28, 1999



COPY



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

A-5

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/034,836 03/04/98 RAMESH

RUPERT B HURLEY
W R GRACE AND CO CONN
P O BOX 464
DUNCAN SC 29334

IM22/0730

R 42941 EXAMINER

ART UNITARIA, PAPER NUMBER

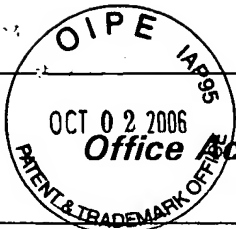
DATE MAILED:

07/30/99

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AUG - 9 1999

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



Application No.
09/034,836

Applicant(s)
Ramesh et al.

Examiner
Ramsey Zacharia

Group Art Unit
1773



Office Action Summary

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-27 is/are pending in the application.
- Of the above, claim(s) 20-27 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-19 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☒ The drawing(s) filed on Mar 4, 1998 is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4, 6, 7
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1773

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of the invention of claims 1-19 in Paper No. 8 is acknowledged.

Information Disclosure Statement

2. Receipt of the information disclosure statements filed on 6/22/98, 9/2/98, and 9/8/98 are acknowledged and have been made of record. German document 1636055 has been crossed out since the submitted document is not in English. If the applicants are desirous to make this reference of record, the concise relevance to this application, such as an English translation with PTOL 1449, should be provided to this office.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 84 and 86 found on line 8 of page 33 in the specification. Correction is required.

Specification

send it in

Spec & drawings are OK - no error here! 84 & 86 on p. 33 are in fig 1

Art Unit: 1773

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (U.S. Patent 5,843,502) in view of Bekele (U.S. Patent 5,482,770) and LaFleur et al. (U.S. Patent 5,258,230).

Ramesh teaches a heat-shrinking multi-layered film with food packaging applications (column 2, lines 59-63). A nine-layered embodiment is given (column 3, line 61-column 4, line 20) that comprises, in order,:

- Ramesh: acrylic acid ; Bekele:*
- (1) an olefin copolymer meat contact layer (corresponding to instant first layer),
 - (2) an olefin copolymer layer, including an ethylene/unsaturated ester copolymer (second),
 - 3) a tie layer (seventh),
 - (4) a layer selected from a list of polymers including polyesters (third),
 - 5) a barrier layer of ethylene vinyl alcohol copolymer (fifth),

Art Unit: 1773

- 6) a polyamide layer (sixth),
- 7) a tie layer (eighth),
- (8) and two polyamide layers including the outer layer (fourth).

Films of Ramesh may be at least partially crosslinked with a free shrink in both the transverse and machine directions of at least 10% at 185 °F (column 5, lines 7-11). The film preferably has a total thickness of 0.3-15 mils (column 15, lines 63-67). The first layer has a thickness of 0.02-3 mils (column 21, lines 31-32); the last layer has a thickness of 0.2-10 mils (column 21, lines 40-41); when the oxygen barrier layer comprises EVOH, it has a thickness of 0.1-5 mils (column 21, lines 54-55); the layer corresponding to the third layer of the instant invention has a thickness of 0.1-8 mils and polyester is a preferred material (column 22, lines 3-13); and the layer corresponding to the second layer of the instant invention has a thickness of 0.1-5 mils (column 23, lines 30-31). Presumably, the percentages disclosed in claims 13 and 14 can be obtained from the above range of thicknesses for the film and each layer. Furthermore, a suitable polyamide is taken to be blends of polyamide 6 (melting point of about 223 °C) and polyamide 6/12 (melting point of greater than 208 °C) as these are the only polyamides cited in the Examples.

Ramesh does not teach the use of a blend of homogeneous and heterogeneous ethylene/ α -olefin copolymers as the first layer or that the polyester disclosed has a melting temperature of between about 130 °C to about 260 °C.

clm 17↑
clm 1

Art Unit: 1773

Bekele teaches a multi-layered film for use in packaging meats (column 1, lines 10-24). The film has a sealant layer preferably comprising a blend of an ethylene based polyolefin catalyzed by a metallocene and an ethylene/vinyl acetate copolymer (column 7, lines 32-48). The sealant layer refers to the innermost layer that serves as a food contact layer (column 6, lines 7-11). Incorporating metallocene catalyzed polyolefins into the outer layers allows for relatively high racking speeds to be employed (column 10, lines 39-48).

LaFleur et al. disclose that polymers, such as polyesters and polyamides, can be coextruded next to polymers containing a high percentage of vinyl alcohol units to form laminates with a good balance between barrier properties and film strength (column 1, lines 7-22). Polyethylene terephthalate is cited as a preferred material (column 7, lines 25-27) and used in the multilayered composites 2-7 as shown in Table 2. Polyethylene terephthalate is taken to be amorphous or have a melting temperature of 130 °C to about 260 °C since claim 12 discloses that polyethylene terephthalate is a suitable material for the third layer of the film.

One of ordinary skill in the art would be motivated to use the sealant layer of Bekele as the meat contact layer in Ramesh to speed up the manufacturing process and increase production. One of ordinary skill would also be motivated to modify the barrier layer according to LaFleur et al. so as to permit the use of polyethylene terephthalate adjacent layer(s) to yield a laminate having a good balance between barrier properties and film strength.

Furthermore, the multilayered film that would result from applying the teaching for Bekele and LaFleur et al. to the article of Ramesh should also have gloss and haze values within

claim 17

Art Unit: 1773

those claimed in the instant invention since the resulting film would comprise the same materials as that of the instant invention.

Therefore, the inventions of claims 1-19, as a whole, would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

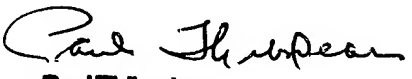
8. Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 5,843,502 in view of Bekele and LaFleur et al. for the reasons outlined above in paragraph 6.

Art Unit: 1773

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

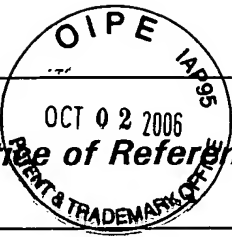
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700

REZ

July 23, 1999



Notice of References Cited

Application No.
09/034,836

Applicant(s)

Ramesh et al.

Examiner

Ramsey Zacharia

Group Art Unit

1773

Page 1 of 1

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	5,843,502	12/1/98	Ramesh	426	127
B	5,258,230	11/2/93	LaFleur et al.	428	412
C	5,482,770	1/9/96	Bekele	428	339
D					
E					
F					
G					
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J					
K					
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
U		
V		
W		
X		

Atty. Docket No.: D-42941-01

Serial No.:

09/034,836

INFORMATION DISCLOSURE
CITATION

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: not yet
assigned

1773

U.S. PATENT DOCUMENTS

Examiner Initials		Document Number	Date	Name	Class	Sub Class	Filing Date if Appropriate
REZ	35	5,086,924	2/11/92	Oberle	206	497	7/25/90
REZ	36	5,206,075	4/27/93	Hodgson Jr.	428	216	12/19/91
REZ	37	5,213,900	5/25/93	Friedrich	428	474.4	1/10/91
REZ	38	5,241,031	8/31/93	Mehta	526	348.1	2/19/92
REZ	39	5,272,236	12/21/93	Lai et al.	526	348.5	10/15/91
REZ	40	5,278,272	1/11/94	Lai et al.	526	348.5	9/02/92
REZ	41	5,336,549	8/09/94	Nishimoto et al.	428	213	8/13/91
REZ	42	5,524,418	6/11/96	Thompson	53	411	3/29/94
REZ	43	5,534,277	7/09/96	Ramesh et al.	426	129	12/09/94

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub-Class	Translation	
							Yes	No

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

REZ	44		ASTM D-2457, "Standard Test Method for Specular Gloss of Plastic Films and Solid Plastics", pp 11 - 15, Jan. 10, 1997					
REZ	45		ASTM D-2732, "Standard Test Method for Unrestrained Linear Thermal Shrinkage of Plastic Film and Sheeting", pp 368 - 371, July 29, 1983					
REZ	46		ASTM D-2838, "Standard Test Method for Shrink Tension and Orientation Release Stress of plastic Film and Thin Sheeting", pp 119 - 122, Nov. 10, 1995					
REZ	47		ASTM D-3410, "Standard Test Method for Compressive Properties of Polymer Matrix Composite Materials with Unsupported Gage Section by Shear Loading", pp 1 - 16, Sept. 10, 1995					
REZ	48		ASTM D-3763, "Standard Test Method for High-Speed Puncture Properties of Plastics Using Load and Displacement Sensors", pp 174 - 178, July 25, 1986					

EXAMINER

Date Considered

7/22/99

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION



Atty. Docket No.: D-42941-01

Serial No.:

09/034,836

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: ~~not yet~~
assigned 1773

U.S. PATENT DOCUMENTS

Examiner Initials		Document Number	Date	Name	Class	Sub Class	Filing Date if Appropriate
REZ	49	5,539,078	7/23/96	Burkett et al.	528	277	12/14/94
REZ	50	5,562,958	10/08/96	Walton et al.	428	34.9	4/28/93
REZ	51	5,594,092	1/14/97	Burkett et al.	528	272	2/01/96
REZ	52	5,604,043	2/18/97	Ahlgren	428	518	9/20/93
REZ	53	5,612,423	3/18/97	Burkett et al.	525	444	2/01/96
REZ	54	5,677,383	10/14/97	Chum et al.	525	240	10/18/95

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub- Class	Translation	
							Yes	No

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

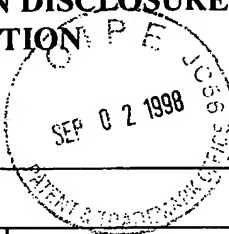
REZ	55	Journal of Polymer Science, "Determination of Branching Distributions in Polyethylene and Ethylene Copolymers", Wild et al., Vol. 20, pp 411-455 (1982)
REZ	56	Journal of Plastic Film and Sheeting, "Optical Properties of Packaging Materials", Leroy Pike, Vol. 9, July 1993, pp 173 - 181

EXAMINER

Date Considered

7/22/99

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
CITATION**


Atty. Docket No.: D-42941-01

Serial No.:

09/034,836

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: 1745 1773

U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Date	Name	Class	Sub Class	Filing Date If Appropriate
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						JUN 05 1999
						TECHNOLOGY CENTER 3700

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub- Class	Translation	
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REZ	1	58-175658	10/14/83	JP	/	/		

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

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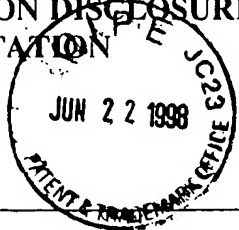
EXAMINER

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7/22/99

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE
CITATION



Atty. Docket No.: D-42941-01

Serial No.:

09/034,836

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: not yet
assigned 1773

U.S. PATENT DOCUMENTS

Examiner Initials		Document Number	Date	Name	Class	Sub Class	Filing Date If Appropriate
REZ	18	4,879,430	11/07/89	Hoffman	428	35.1	5/14/87
REZ	19	4,883,693	11/28/89	Ohya et al.	428	34.9	12/09/87
REZ	20	4,911,979	3/27/90	Nishimoto et al.	428	332	1/26/88
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REZ	22	4,977,022	12/11/90	Mueller	428	349	3/02/90
REZ	23	5,002,782	3/26/91	Oberle	426	113	8/25/89
REZ	24	5,044,142	9/03/91	Gianelli	53	434	9/20/90
REZ	25	5,053,259	10/01/91	Vicik	428	36.91	8/23/88
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		Document Number	Date	Country	Class	Sub- Class	Translation	
							Yes	No
	28	1 636 055	2/04/71	DE	/	/	X	
REZ	29	1-247160	10/03/89	JP (Abstract)	/	/		
REZ	30	WO 90/03414	4/05/90	PCT	/	/		
REZ	31	WO 93/03093	2/18/93	PCT	/	/		
REZ	32	WO 97/49293	12/31/97	PCT	/	/		

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

REZ	33	ASTM D-1238, "Standard Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer", pp 250 - 258, Nov. 10, 1995
REZ	34	ASTM D-1505, "Standard Test Method for Density of Plastics by the Density -Gradient Technique", pp 294 - 299, July 10, 1996

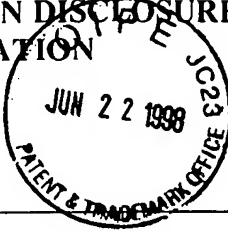
EXAMINER

Date Considered

7/22/99

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE
CITATION



Atty. Docket No.: D-42941-01

Serial No.:

09/034,836

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: not yet
assigned 1773

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Examiner Initials		Document Number	Date	Name	Class	Sub Class	Filing Date If Appropriate
REZ	1	4,064,296	12/20/77	Bornstein et al.	428	35	10/02/75
REZ	2	4,120,716	10/17/78	Bonet	156	272	6/03/77
REZ	3	4,278,738	7/14/81	Brax et al.	428	515	7/16/79
REZ	4	4,469,742	9/04/84	Oberle et al.	428	215	1/31/83
REZ	5	4,654,240	3/31/87	Johnston	428	35	9/28/84
REZ	6	4,732,795	3/22/88	Ohya et al.	428	36	11/27/84
REZ	7	4,851,245	7/25/89	Hisazumi et al.	426	105	2/03/88
REZ	8	4,855,183	8/08/89	Oberle	428	345	11/17/86
REZ	9	4,879,124	11/07/89	Oberle	426	113	4/19/88

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub- Class	Translation	
							Yes	No
REZ	10	0 288 972	11/02/88	EP	/	/		
REZ	11	0 476 836	11/15/96	EP	/	/		
REZ	12	0 597 502	5/18/94	EP	/	/		
REZ	13	0 600 425	6/08/94	EP	/	/		
REZ	14	0 707 957	4/24/96	EP	/	/		
REZ	15	2 067 131	7/22/81	GB	/	/		

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

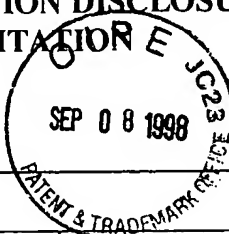
16	ASTM D-882, "Standard Test Methods for Tensile Properties of Thin Plastic Sheetings", pp 194 - 199, Nov. 15, 1991
17	ASTM D-1003, "Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics", pp 197 - 201, Feb. 15, 1995

EXAMINER

Date Considered

7/22/99

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
CITATION E**


Atty. Docket No.: D-42941-01'

Serial No.:

09/034,836

Applicant(s): Ramesh et al.

Filing Date: 3/4/98

Group: 1713 1773

U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Date	Name	Class	Sub Class	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub- Class	Translation	
							Yes	No
REZ	1.	55-3137	1/23/80	JP	/	/		

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OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

EXAMINER

Date Considered

7/22/99

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January 25, 2000

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.
Registration No. 29,313

January 25, 2000
DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et. Al.

New Attorney Docket No.: D-42941-01

Serial No : 09/034,836

Group Art Unit: 1773

Filing Date: March 4, 1998

Examiner: Zacharia, R.

For: **HEAT-SHRINKABLE MULTILAYER PACKAGING FILM COMPRISING INNER
LAYER COMPRISING A POLYESTER**

AMENDMENT UNDER 37 CFR 1.111

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

This Amendment under 37 C.F.R. 1.111 is filed in response to the Office Action mailed July 30, 1999, the period for response thereto being extended three months (i.e., through Monday, January 31, 2000, as January 30 falls on a Sunday) by the accompanying request for a three-month extension of time under 37 CFR 1.136(a). Applicant respectfully requests reconsideration of the patentability of the claims in view of the Amendment and Remarks provided hereinbelow.

The undersigned authorizes the Commissioner to charge Deposit Account 07-1765 in the amount of \$76.00, for the examination of four additional claims over twenty claims. This page is being provided in duplicate.

42941-01.A01

AMENDMENT

IN THE SPECIFICATION

On Page 29, line 1, change "fifth" to ---fourth---.

IN THE CLAIMS

Kindly cancel Claims 20-27, without prejudice or disclaimer thereof, which were withdrawn from consideration as being directed to a nonelected invention.

Kindly amend Claims 1 and 12, as follows:

1. (Once Amended) A heat-shrinkable multilayer film comprising:

(A) a first layer, which is an outer layer, and which comprises polyolefin;

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to [about 260°C] less than 190°C;

(D) a fourth layer, which is an outer layer, the fourth layer comprising at least one member selected from the group consisting of polyester having a melting point of at least 190°C, polyamide and polyurethane.

12. (Once Amended) The heat-shrinkable film according to Claim 9, wherein the first layer comprises ethylene/alpha-olefin copolymer; the second layer comprises ethylene/vinyl acetate copolymer; [the third layer comprises polyethylene terephthalate;] the fourth layer comprises polyethylene terephthalate; and the fifth layer comprises EVOH.

Kindly add newly-presented Claims 28-39, as follows:

42941-01.A01

---28. The heat-shrinkable film according to Claim 1, wherein the polyolefin in the first layer has a melting point of from about 50°C to about 125°C.

29. The heat-shrinkable film according to Claim 1, wherein the polyolefin in the first layer comprises ethylene/alpha-olefin copolymer.

30. The heat-shrinkable film according to Claim 1, wherein the second layer has a thickness of from about 10 to 45 percent, based on total film thickness, and the fourth layer has a thickness of from about 1 to 30 percent, based on total film thickness.

31. The heat-shrinkable film according to Claim 30, wherein the second layer has a thickness of from about 13 to 40 percent, based on total film thickness, and the fourth layer has a thickness of from about 4 to 20 percent, based on total film thickness.

32. The heat-shrinkable film according to Claim 31, wherein the second layer has a thickness of from about 15 to 35 percent, based on total film thickness, and the fourth layer has a thickness of from about 4 to 16 percent, based on total film thickness.

33. The heat-shrinkable film according to Claim 32, wherein the second layer has a thickness of from about 17 to 25 percent, based on total film thickness, and the fourth layer has a thickness of from about 5 to 15 percent, based on total film thickness.

34. The heat-shrinkable film according to Claim 33, wherein the second layer has a thickness of from about 20 to 25 percent, based on total film thickness, and the fourth layer has a thickness of from about 7 to 12 percent, based on total film thickness.

35. The heat-shrinkable film according to Claim 1, wherein the second layer comprises at least one member selected from the group consisting of ethylene/alpha-olefin, ethylene/unsaturated acid, and ethylene/unsaturated ester.

36. The heat-shrinkable film according to Claim 35, wherein the second layer comprises ethylene/vinyl acetate copolymer having a vinyl acetate mer content of from about 12 to 18 percent.

37. The heat-shrinkable film according to Claim 1, wherein the film has an impact strength of at least 16 pounds at 88°C.

38. The heat-shrinkable film according to Claim 1, wherein the film has an impact strength of at least about 130 Newtons at 73°F.

39. A heat-shrinkable multilayer film comprising:

(A) a first layer, which is an outer layer, and which comprises polyolefin;

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of polyester having from about 70 to 85 mole percent terephthalate mer units and amorphous polyester;

(D) a fourth layer, which is an outer layer, the fourth layer comprising at least one member selected from the group consisting of polyester having greater than 85 mole percent terephthalate mer units, polyamide and polyurethane.---

REMARKS

I. The Pending Claims and the Amendments to the Claims

With the entry of the amendment set forth above, Claims 1-19 and 28-39 are pending, with Claims 1 and 39 being the independent claims, and Claims 2-19 and 28-38 being the pending dependent claims. Claim 1 is amended to recite the third layer as comprising polyester having a melting point of from about 130°F to less than 190°F. Support for this amendment can be found in Applicants' specification at, for example, Page 26 lines 3-10. In addition, Claim 1 is amended to recite the polyester in the fourth layer as having a melting point of from greater than 190°C up to about 240°C. Support for this amendment can be found at, for example, Page 27 lines 19-25. The amendment of Claim 12 is merely the deletion of the recitation of the third layer as comprising polyethylene terephthalate. As to newly-presented Claims 28-39, support for Claim 28 can be found at, for example, Page 22 lines 27-28; support for Claim 29 can be found at, for example, Page 22 lines 19-20; support for Claims 30-34 can be found at, for example, Page 25 lines 14-25 together with Page 28 line 29 through Page 29 line 4; support for Claim 35 can be found at, for example, Page 18 lines 1-16; support for Claim 36 can be found at, for example, Page 24 lines 23-27; support for Claim 37 can be found at, for example, Page 6 lines 18-23; support for Claim 38 can be found at, for example, Page 6 lines 11-17; and, support for Claim 39 can be found at, for example, Page 3 lines 19-26 in combination with Page 4 lines 16-19 and Page 25 line 26 through Page 26 line 2. No new matter is present in the amendments to the specification and claims. The amendment of Page 29 of the specification is to correct an obvious typographical error.

II. The Drawings

Paragraph 3 of the July 30 Office Action states that the drawings do not include reference signs 84 and 86 disclosed at Page 33 line 8 of the specification. In response, Applicants provide herewith a copy of Figures 1 and 2, as filed. Applicants direct attention to the fact that Figure 1 contains reference numerals 84 and 86, and that accordingly no correction of the drawings is needed.

**III. The Rejection of Claims 1-19 as Unpatentable over RAMESH
in view of BEKELE and LaFLEUR**

In Paragraph 6 of the 30 July Office Action, Claims 1-19 are rejected as obvious over U.S. Patent No. 5,843,502, to Ramesh ("RAMESH") in view of U.S. Patent No. 5,482,770, to Bekele ("BEKELE") and U.S. Patent No. 5,258,230, to LaFleur et al ("LaFLEUR et al"). The Office Action states that RAMESH discloses a heat-shrinkable 9-layer film comprising the various layers recited in Applicants' claims, except that RAMESH does not teach the use of a blend of homogeneous and heterogeneous ethylene/alpha-olefin copolymer as the first layer, or that the polyester has a melting temperature between 130°C - 260°C. The Office Action goes on to state that BEKELE teaches the use of metallocene catalyzed polyolefin and EVA in a seal layer and in outer layers, to permit relatively high racking speeds. As to LaFLEUR et al, the Office Action states that this document discloses that polyesters and polyamides can be coextruded next to polymers containing a high percentage of vinyl alcohol units to form laminates with a good balance between barrier properties and film strength, and that polyethylene terephthalate is cited as a preferred material, and that it is taken to be amorphous or as having a melting temperature of 130°C to about 260°C. The Office Action concludes that one of ordinary skill in the art would have been motivated to use the sealant layer of BEKELE as the meat-contact layer in RAMESH to speed up the manufacturing process, and that one would have been motivated to modify the barrier layer according to LaFLEUR et al to permit the use of polyethylene terephthalate adjacent layer to yield a laminate having a good balance between barrier properties and film strength, and that the resulting multilayer film should have the gloss and haze values within the

claims of the pending claims since the same materials are being used, and that as a result, the invention of Claims 1-19 would have been obvious.

In response, Applicants contend that *amended* Claims 1-19, as well as newly-presented Claims 28-39, are patentable over RAMESH in view of BEKELE and LaFLEUR et al. Applicants direct attention to the fact that the only independent claims are Claims 1 and 39. Claim 1 recites the third layer as comprising at least one member selected from the group consisting of (a) polyester having a melting point of from about 130°C to less than 190°C and (b) amorphous polyester. Claim 1 goes on to recite the fourth layer comprising a polyester having a melting point of at least 190°C. Neither RAMESH nor BEKELE nor LAFLEUR et al appears to disclose this combination of different polyesters in the different layers of a multilayer heat shrinkable film. Applicants note that RAMESH merely refers to "polyester" without specifying further as to the composition or properties of the polyester. See, for example, Column 3 lines 54 through Column 4 line 8 of RAMESH. Likewise, LaFLEUR et al discloses a multilayer film containing polyethylene terephthalate (PET). Applicants note that PET is a highly crystalline polyester homopolymer having a melting point of about 270°C, which of course is substantially different from the polyester recited in Applicants' third layer.

It does not appear that either RAMESH or LaFLEUR et al disclose any particular polyester having a melting point of from 130°C to less than 190°C, as recited in Applicants' Claim 1 (Once Amended). Moreover, it does not appear that either RAMESH or LaFLEUR et al discloses an amorphous polyester, which is a non-crystalline polyester copolymer which has no defined melting point, as also recited in the third layer of Applicant's Claim 1. Moreover, neither RAMESH nor LaFLEUR et al discloses such a polyester in an inner film layer in a multilayer film which also has an

42941-01.A01

outer layer comprising a polyester having a melting point greater than 190°C. As a result, Applicants contend that Claim 1 (Once Amended) and all claims dependent therefrom, are patentable over RAMESH in view of BEKELE and LaFLEUR et al. That is, RAMESH in view of BEKELE and LaFLEUR et al does not rise to the level of a prima facie case of obviousness with respect to Claim 1 (Once Amended), as well as dependent Claims 2-19 and 28-38.

Turning particularly to newly-presented dependent Claims 37 and 38, Applicants note that these claims recite the film as having an impact strength which is unexpected over the film of Applicants' Example 3 (Comparative). The film of Example 3 is a commercial film currently utilized for the packaging of smoked and processed meats. Applicants contend that they discovered the unexpected: that their film as recited in Claims 37 and 38 provides an unexpectedly higher impact strength than the impact strength of the film currently used commercially for the packaging of smoked and processed meats.

Turning next to Claim 39, Applicants note that this claim is analogous to Claim 1, except that it recites the polyester in the third layer, and the polyester in the fourth layer, in terms of terephthalate mer content, rather than in terms of melting point. More particularly, the second layer is recited as comprising at least one member selected from the group consisting of amorphous polyester (already discussed above) and/or polyester having a terephthalate mer content of from 70 to 85 mole percent. The latter is necessarily a copolymer containing from 15-30 mole percent of a mer unit which is not a terephthalate mer unit. Applicants contend that neither RAMESH nor LaFLEUR et al discloses any specific polyester having a terephthalate mer content of from 70 to 85 mole percent. As discussed above, RAMESH appears to disclose only "polyester", and LaFLEUR et al discloses PET. Neither

42941-01.A01

disclosures direct one to a polyester copolymer having a terephthalate mer content of from 70 to 85 mole percent. Moreover, neither RAMESH nor LaFLEUR et al discloses such a polyester in an inner film layer in a multilayer film which also has an outer layer comprising a polyester having a terephthalate mer content of greater than 85 mole percent. As a result, Applicants contend that Claim 39 is patentable over RAMESH in view of BEKELE and LaFLEUR et al. That is, RAMESH in view of BEKELE and LaFLEUR et al does not rise to the level of a prima facie case of obviousness with respect to Claim 39.

**IV. The Double Patenting Rejection of Claims 1-19 over RAMESH
in view of BEKELE and LaFLEUR et al**

In Paragraph 8 of the 30 July Office Action, Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-33 of U.S.

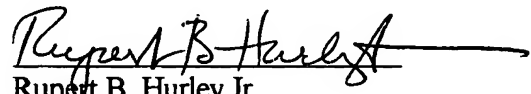
Patent No. 5,843,502 (i.e., RAMESH) in view of BEKELE and LaFLEUR et al.

In response, Applicants contend that in view of the amendments and arguments presented above, Claims 1-19 (as amended), as well as newly-presented Claims 28-39, are nonobvious over RAMESH, and hence that there is no double patenting over RAMESH.

V. Conclusion

In view of all of the foregoing amendments and arguments, it is respectfully submitted that Claims 1-19 and 28-39 are patentable over the prior art of record, and in condition for allowance.

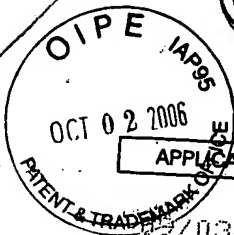
Respectfully submitted,


Rupert B. Hurley Jr.
Reg. No. 29,313
(864)433-3247

Attached: Fig 1 & Fig 2 (1 sheet)

42941-01.A01

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
03/034,836	03/04/98	RAMESH	

RUPERT B HURLEY
W R GRACE AND CO CONN
P O BOX 464
DUNCAN SC 29334

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ZACHARIA, R	
ART UNIT	PAPER NUMBER

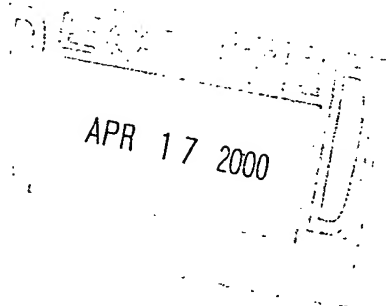
1773
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Please find below and/or attached an Office communication concerning this application or proceeding.

TC
List

Commissioner of Patents and Trademarks



Office Action Summary

Application No.
09/034,836

Applicant(s)
Ramesh et al.

Examiner
Ramsey Zacharia

Group Art Unit
1773



☒ Responsive to communication(s) filed on Jan 28, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-19 and 28-39 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-19 and 28-39 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 10

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1773

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 28 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. Claim 28 recites the limitation that the polyolefin in the first layer has a melting point of from about 50 °C to about 125 °C. However, the disclosure as filed appears to only support a polyolefin in the first layer having a melting point of less than about 125 °C (page 22, lines 27-30). Clearly "about 125 °C" as currently recited is outside the range of "less than about 125 °C". Moreover, note that if the limitation "about 125 °C" is replaced by "less than about 125 °C", the claim will then be rejected under the second paragraph of 35 U.S.C. 112 for the reasons put forth below in paragraph 6.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

amend to 50 to less than 125 °C

Art Unit: 1773

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

add copy from
5. Claims 35 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 is rendered indefinite because it is unclear from the wording of the claim whether the second layer comprises blends of molecules recited or copolymers made from the monomers recited. For the purpose of examination, the second layer is taken to comprise copolymers made from the monomers recited.

at least 130
6. The phrase "at least about 130 Newtons" in claim 38 renders the claim indefinite because the metes and bounds of the claim are ill defined. The phrase "*at least X*", meaning any value of *X* or higher, excluding any value below *X*, is well defined if *X* is well defined. If *X* is not well defined, then the phrase is indefinite because it is unclear which values are to be excluded from the range. In the instant case, deleting the word "about" from the claim is sufficient to overcome this rejection and would limit the impact strength of the film to values of 130 Newtons or higher at 73 °C.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1773

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 4, 6-11, 13-16, 18, 19, 28, 30-34, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (U.S. Patent 5,843,502) in view of Mueller et al. (U.S. Patent 4,274,900).

Ramesh teaches a heat-shrinking multi-layered film with food packaging applications (column 2, lines 59-63). A nine-layered embodiment is given (column 3, line 61-column 4, line 20) that comprises, in order,:

- 1) an olefin copolymer meat contact layer (first layer in prior art - corresponds to instant first layer),
- 2) an olefin copolymer layer, including an ethylene/unsaturated ester copolymer (ninth - second),
- 3) a tie layer (fifth - seventh),
- 4) a layer selected from a list of polymers including polyesters (fourth - third),
- 5) a barrier layer of ethylene vinyl alcohol copolymer (third - fifth),
- 6) a polyamide layer (second - sixth),
- 7) a tie layer (seventh - eighth),
- 8) a polyamide outer layer (sixth - fourth).

Films of Ramesh may be at least partially crosslinked with a free shrink in both the transverse and machine directions of at least 10% at 185 °F (column 5, lines 7-11). The film preferably has

Art Unit: 1773

a total thickness of 0.3-15 mils (column 15, lines 63-67). The first layer has a thickness of 0.02-3 mils (column 21, lines 31-32); the last layer has a thickness of 0.2-10 mils (column 21, lines 40-41); when the oxygen barrier layer comprises EVOH, it has a thickness of 0.1-5 mils (column 21, lines 54-55); the layer corresponding to the third layer of the instant invention has a thickness of 0.1-8 mils and polyester is a preferred material (column 22, lines 3-13); and the layer corresponding to the second layer of the instant invention has a thickness of 0.1-5 mils (column 23, lines 30-31). Furthermore, a suitable polyamide is taken to be blends of polyamide 6 (melting point of about 223 °C) and polyamide 6/12 (melting point of greater than 208 °C) as these are the only polyamides cited in the Examples.

Presumably, the percentages disclosed in claims 13, 14, and 30-34 can be obtained from the above range of thicknesses for the film and each layer. If this is not the case, the Examiner takes the position that it would have been obvious to vary the relative thicknesses of the films to optimize the laminate based on its final application given the reasonable expectation of equivalent results and absent a demonstrative showing of criticality, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Ramesh is silent regarding the impact strength, gloss, and haze of the laminate, however, these are taken to be material properties of polyester based heat shrinkable laminates.

Ramesh does not teach that the material of the fourth layer (corresponding to the third layer in the instant invention) be a polyester that is amorphous or has a melting temperature of

Art Unit: 1773

about 130 °C to less than 190 °C. However, Ramesh does disclose that the material to be used for the fourth layer may be a polyester.

Mueller et al. is drawn to heat shrinkable packaging laminate (column 1, lines 99-12). The laminates have a central layer that comprises a copolyester (Examples 1-3 and column 3, lines 21-23). As defined by Mueller et al., copolyester encompasses copolymers of terephthalic and isophthalic acid and glycol modified polyethylene terephthalate (column 4, lines 15-23). Although Mueller et al. does not disclose the crystallinity or melting temperature of the copolyesters used, they are taken to be either amorphous or having a melting point in the range of 130 to less than 190 °C, since copolyesters based on polyethylene terephthalate are cited as among the suitable polyesters in the instant specification (page 26, lines 3-10). Furthermore, in the event that the copolyesters used by Mueller et al. are neither amorphous nor have a melting point in the range of 130 to less than 190 °C, it would have been obvious to one of ordinary skill in the art to optimize the concentration of terephthalic acid to isophthalic acid in the copolyester of Mueller et al., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

One of ordinary skill in the art would be motivated to use the copolyesters of Mueller et al. as central layers in the laminates of Ramesh to give the laminates enhanced properties including good optical qualities, a wide shrink temperature range, and resistance to tear propagation (column 2, lines 53-62).

Art Unit: 1773

Therefore, the inventions of claims 1, 2, 4, 6-11, 13-16, 18, 19, 28, 30-34, and 37-39, as a whole, would have been obvious to one of ordinary skill in the art at the time the inventions were made.

9. Claims 17 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (U.S. Patent 5,843,502) in view of Mueller et al. (U.S. Patent 4,274,900) as applied to claim 1 above, and further in view of Bekele (U.S. Patent 5,482,770).

Ramesh teaches all the limitations of claims 17 and 29, as outlined above in paragraph 8, except for the use of a blend of homogeneous and heterogeneous ethylene/ α -olefin copolymers as the first layer.

Bekele teaches a multi-layered film for use in packaging meats (column 1, lines 10-24). Bekele teaches using a blend of a metallocene catalyzed polyolefin and traditional linear low density polyethylene as an outer layer (column 12, lines 55-57). Metallocene catalyzed polyolefin would result in a homogeneous polyolefin while linear low density polyethylene is a heterogeneous ethylene/ α -olefin copolymer. Although Bekele does not specifically disclose that the metallocene catalyzed polyolefin is an ethylene/ α -olefin copolymer, it would be obvious to one of ordinary skill in the art to use an ethylene/ α -olefin copolymer as the metallocene catalyzed polyolefin to ensure miscibility of the blend and minimize phase separation. Incorporating metallocene catalyzed polyolefins into the outer layers allows for relatively high racking speeds to be employed (column 10, lines 39-48).

Art Unit: 1773

One of ordinary skill in the art would be motivated to replace the polyolefin layer in Ramesh with the polyolefin layer of Bekele containing metallocene catalyzed polyolefins so as to speed up the manufacturing process and increase production.

Therefore, the inventions of claims 17 and 29, as a whole, would have been obvious to one of ordinary skill in the art at the time the inventions were made.

10. Claims ^{4 9-15 17} 1-3, 5-8, 16, 18, 19, 29-34, 36-^{(10-29) 35} 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. (U.S. Patent 4,274,900).

Mueller et al. teach a heat shrinkable packaging film comprising a multilayer laminate (column 1, lines 9-12). The laminate comprises a core layer that may be a copolyester, two outer layers, and two intermediate layers between the core layer and the outer layers (column 3, lines 21-30). One outer layer may be a polyester or copolyester while the other is a polyethylene or a crosslinked polyethylene. A suitable polyester is polyethylene terephthalate and a suitable copolyester is copolymers of terephthalic and isophthalic acid (column 4, lines 10-23). The laminates have a thickness of about 0.1 to about 2.0 mil (column 5, lines 57-62). The embodiment of Example 4 illustrates a laminate having one outer layer of polyester to provide the film with scratch resistance and one outer layer of ethylene-propylene copolymer with ethylene/vinyl acetate copolymer between each outer layer and the core layer. Suitable ethylene/vinyl acetate material has a vinyl acetate content of about 12% (column 5, lines 24-25).

As defined by Mueller et al., copolyester encompasses copolymers of terephthalic and isophthalic acid and glycol modified polyethylene terephthalate (column 4, lines 15-23).

Art Unit: 1773

Although Mueller et al. does not disclose the crystallinity or melting temperature of the copolyesters used, they are taken to be either amorphous or having a melting point in the range of 130 to less than 190 °C, since copolyesters based on polyethylene terephthalate are cited as among the suitable polyesters in the instant specification (page 26, lines 3-10). Furthermore, in the event that the copolyesters used by Mueller et al. are neither amorphous nor have a melting point in the range of 130 to less than 190 °C, it would have been obvious to one of ordinary skill in the art to optimize the concentration of terephthalic acid to isophthalic acid in the copolyester of Mueller et al., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding the relative thickness of the layers of the laminate, Mueller et al. discloses ranges that presumably overlap with the claimed ranges. Furthermore, if this is not the case, the Examiner takes the position that it would have been obvious to vary the relative thicknesses of the films to optimize the laminate based on its final application given the reasonable expectation of equivalent results and absent a demonstrative showing of criticality, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Mueller et al. is silent regarding the total free shrink, impact strength, gloss, and haze of the laminate, however, these are taken to be material properties of polyester based heat shrinkable laminates.

Art Unit: 1773

Therefore, the inventions of claims 1-3, 5-8, 16, 18, 19, 29-34, 36-39, as a whole, would have been obvious to one of ordinary skill in the art at the time the inventions were made.

11. Claims 9 and 12-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al.(U.S. Patent 4,274,900) as applied to claim 1 above, and further in view of Ramesh (U.S. Patent 5,843,502).

Mueller et al. teach all the limitations of claims 9 and 12-15, as outlined above in paragraph 10, except for the presence of a selected O₂ barrier layer.

Ramesh is directed to a heat shrinkable packaging laminate (column 2, lines 59-63). Ramesh discloses that use of a barrier layer composed of ethylene/vinyl acetate copolymer in heat shrinkable packaging laminates is known to those of skill in the art (column 8, lines 36-45).

One of ordinary skill in the art would be motivated to deploy an ethylene/vinyl acetate layering within the laminate of Mueller et al. to improve the minimize the transfer of oxygen through the laminate in application wherein the packaged material is sensitive to oxygen.

As stated above it is presumed that the relative thickness of the layers of the laminate overlap with the claimed ranges. However, if this is not the case, the Examiner takes the position that it would have been obvious to vary the relative thicknesses of the films to optimize the laminate based on its final application given the reasonable expectation of equivalent results and absent a demonstrative showing of criticality, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 1773

Therefore, the invention of claims 9 and 12-15, as a whole, would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1, 2, 4, 6-11, 13-16, 18, 19, 28, 30-34, and 37-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 5,843,502 in view of Mueller et al. (U.S. Patent 4,274,900) for the reasons outlined above in paragraph 8.

14. Claims 17 and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 5,843,502 in view of Mueller et al. (U.S. Patent 4,274,900) and Bekele (U.S. Patent 5,482,770) for the reasons outlined above in paragraph 9.

Art Unit: 1773

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718.

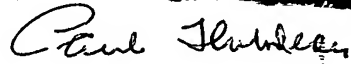
Art Unit: 1773

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

REZ

Ramsey Zacharia

April 10, 2000


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700

Notice of References CitedApplication No.
09/034,836

Applicant(s)

Ramesh et al.

Examiner

Ramsey Zacharia

Group Art Unit
1773

Page 1 of 1

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	4,274,900	6/23/81	Mueller et al.	156	229
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
U		
V		
W		
X		

Atty. Docket No.: D-42941-01

Serial No.: 09/034,836

RECEIVED

OCT 07 1999

INFORMATION DISCLOSURE
CITATION

Applicant(s): R. Ramesh et al

Group 3700

Filing Date: March 4, 1998

Group: *3721 1773

U.S. PATENT DOCUMENTS

Examiner Initials		Document Number	Date	Name	Class	Sub Class	Filing Date If Appropriate
REZ	1.	4,188,443	02/12/80	Mueller et al	428	216	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub- Class	Translation	
							Yes	No
REZ	1.	1,636,055	02/04/71	German	/	/	X	
REZ	2.	60-232948	11/19/85	Japan	/	/	X	

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

EXAMINER

Date Considered

3/30/00

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



COPY

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS EXPRESS MAIL, POSTAGE PREPAID IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20236, ON: October 11, 2000 SAID ENVELOPE HAVING AN EXPRESS MAIL LABEL NUMBER OF: EJ700498236US

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.

Registration No. 29,313

Oct 11, 2000

DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et. Al.

New Attorney Docket No.: D-42941-01

Serial No : 09/034,836

Group Art Unit: 1773

Filing Date: March 4, 1998

Examiner: Zacharia, R.

For: HEAT-SHRINKABLE MULTILAYER PACKAGING FILM COMPRISING INNER LAYER COMPRISING A POLYESTER

PRELIMINARY AMENDMENT

Commissioner For Patents
Washington, DC 20231

Sir:

This Preliminary Amendment is filed concurrently with the filing of a Continuing Prosecution Application under 37 CFR 1.53(d), which is filed in response to the Office Action mailed April 13, 2000, the period for response thereto being extended three months, i.e., through Friday, October 13, 2000, by the accompanying request for a three-month extension of time under 37 CFR 1.136(a). Applicants respectfully request reconsideration of the patentability of the claims in view of the Amendment and Remarks provided hereinbelow.

42941-01.A02

AMENDMENT

IN THE CLAIMS

Kindly cancel Claims 9 and 10, without prejudice or disclaimer thereof.

Kindly amend the claims, as follows:

1. (Twice Amended) A heat-shrinkable multilayer film comprising:

(A) a first layer, which is an outer layer, and which comprises polyolefin;

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C;

(D) a fourth layer, which is an outer layer, the fourth layer comprising at least one member selected from the group consisting of polyester having a melting point of at least 190°C, polyamide and polyurethane;

(E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and

(F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer.

12. (Twice Amended) The heat-shrinkable film according to Claim [9] 1, wherein the first layer comprises ethylene/alpha-olefin copolymer; the second layer comprises ethylene/vinyl acetate copolymer; and the fourth layer comprises polyethylene terephthalate, [; and the fifth layer comprises EVOH.]

13. (Once Amended) The heat-shrinkable film according to Claim [9] 1, wherein, based on total film thickness, the first layer has a thickness of from about 1 to 60 percent, the second layer has a thickness of from about 1 to 50 percent, the third layer has a thickness of from about 5 to 40 percent, the fourth layer has a thickness of from about 1 to 40 percent, and, the fifth layer has a thickness of from about 1 to 20 percent.

15. (Once Amended) The heat-shrinkable film according to Claim [9] 1, wherein the second layer is between the first layer and the third layer, and the third layer is between the second layer and the fifth layer, [, and the fifth layer is between the third layer and the fourth layer.]

28. (Once Amended) The heat-shrinkable film according to Claim 1, wherein the polyolefin in the first layer has a melting point of from about 50°C to [about] less than 125°C.

35. (Once Amended) The heat-shrinkable film according to Claim 1, wherein the second layer comprises at least one member selected from the group consisting of ethylene/alpha-olefin copolymer, ethylene/unsaturated acid copolymer, and ethylene/unsaturated ester copolymer.

38. (Once Amended) The heat-shrinkable film according to Claim 1, wherein the film has an impact strength of at least [about] 130 Newtons at 73°F.

39. (Once Amended) A heat-shrinkable multilayer film comprising:

- (A) a first layer, which is an outer layer, and which comprises polyolefin;
- (B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of polyester having from about 70 to 85 mole percent terephthalate mer units and amorphous polyester;

(D) a fourth layer, which is an outer layer, the fourth layer comprising at least one member selected from the group consisting of polyester having greater than 85 mole percent terephthalate mer units, polyamide and polyurethane; [.]

(E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and

(F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having from about 70 to 85 mole percent terephthalate mer units, the sixth layer being between the fourth layer and the fifth layer.

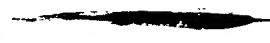
REMARKS

I. The Pending Claims, the Amendments to the Claims, and the §112 Rejections

With the entry of the amendment set forth above, Claims 1-8, 11-19, and 28-39 are pending. Claims 1 and 39 are the only pending independent claims. Claims 2-8, 11-19, and 28-38 are the pending dependent claims.

Claims 1 and 39 have both been amended to further recite a fifth layer comprising EVOH and a sixth layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C. Moreover the fifth layer is recited as being between the third layer and the fourth layer, and the sixth layer is recited as being between the fourth layer and the fifth layer. Applicants note that all of the amendments to Claims 1 and 39 were taken from canceled Claims 9 and 10, as filed, which is the reason for the cancellation of these claims. Moreover, support for the amendments to Claims 1 and 39 can be found in the specification at, for example, Page 5 lines 11-20.

As a result of the cancellation of Claims 9 and 10, Claim 12 has been amended to depend from Claim 1, and has been further amended by the deletion of recitation which is redundant with Claim 1 as amended above. Likewise, Claims 13 and 15 have been amended to depend from Claim 1 for the same reason, and redundant language has also been deleted from Claim 15.

Claim 28 has been amended by deletion of the word "about", and insertion of the words --less than--. Attention is directed to Page 22 lines 27-28 of the specification as support for this amendment. Claim 35 has been amended to recite the various members of the group as ~~the~~  --copolymers--, in accordance with Page 11 lines 12-14 of the specification. Claim 38 has been amended by deleting the word "about". Attention is directed to Page 6 lines 11-17 as support for this amendment. Applicants respectfully request withdrawal of all of the §112 rejections, in view of the amendments to Claims 28, 35, and 38.

No new matter is present in the amendments to the claims.

II. The Rejection of Claims 1, 2, 4, 6-11, 13-16, 18, 19, 28, 30-34, and 37-39
as Obvious over RAMESH in view of MUELLER

Applicants note that USPN 5,843,502, to Ramesh ("RAMESH"), issued December 1, 1998 from an application filed June 26, 1996. The instant application claims priority from an application filed March 4, 1998, i.e., before the issuance of RAMESH, but after the filing date of RAMESH. Thus, RAMESH is a reference only under 102(e)/103(a), not 102(b)/103(a). However, the instant Continuing Prosecution Application under 37 CFR 1.53(d) is accorded the advantages of 35 USC 103(c) because this CPA has been filed after the amendments to 103(a) in the legislation passed November 29, 1999. As a result, RAMESH is no longer available as a reference against the claims of the instant application, because at the time the instant invention was made, both RAMESH and the instant invention were "...owned by the same entity or subject to an obligation of assignment to the same person." Accordingly, Applicants respectfully request that this rejection be withdrawn.

42941-01.A02

**III. The Rejection of Claims 17 and 29 as Obvious over RAMESH
in view of MUELLER et al and further in view of BEKELE**

As RAMESH is not a reference against the instant application, Applicants further request that this ground of rejection also be withdrawn, for the same reasons that the rejection under "II" above should be withdrawn.

**IV. The Rejection of Claims 1-3, 5-8, 16, 18, 19, 29-34, and 36-39
as Obvious over MUELLER et al**

Applicants note that Claims 9 and 10, which have been canceled because they have been incorporated into independent Claims 1 and 39, were not rejected as obvious over USPN 4,274,900, to Mueller et al ("MUELLER et al"). Since the features in Claims 9 and 10 have been incorporated into both of independent Claims 1 and 39, Applicants contend that all of the claims, as amended, are nonobvious over MUELLER et al for the same reasons that the 13 April Office Action did not include a rejection of Claims 9 and 10 as obvious over MUELLER et al.

Moreover, Applicants point out that as amended, independent Claims 1 and 39 each recite a third and sixth layers which comprise a polyester of a specific type, a fourth layer comprising a polyester of a different type, and a fifth layer comprising EVOH. As to the different types of polyesters in the film, the polyester in the fourth layer is a higher melting polyester so that stack sealing is enhanced, with the polyester in the third and sixth layers being lower melting to facilitate orientation in the solid state, i.e., to provide the film with the desired heat-shrink character. By splitting the low melting polyester into two layers one on each side of the EVOH layer, the film is also provided with balance to prevent an undesirable degree of curling. Applicants contend that MUELLER et al does not teach or suggest a film having six layers with Applicants' recited

42941-01.A02

combination of layers comprising different polyesters with two internal layers comprising a polyester which is lower melting than the polyester in the outer layer. As a result, Applicants contend that their claimed film is nonobvious over MUELLER et al.

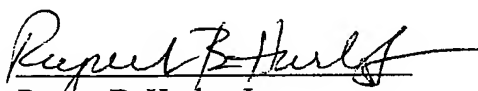
**V. The Rejection of Claims 9 and 12-15 as Obvious
over MUELLER et al in view of RAMESH**

Applicants again note that with the filing of the instant continuing prosecution application, RAMESH is not available as a reference. Thus, the arguments set forth above in response to the §103 rejection based solely on MUELLER et al also apply in response to this rejection.

V. Conclusion

In view of all of the foregoing amendments and arguments, it is respectfully submitted that Claims 1-8, 11-19, and 28-39 are patentable over the prior art of record, and in condition for allowance.

Respectfully submitted,


Rupert B. Hurley Jr.
Reg. No. 29,313
(864)433-3247

COPY



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

MoS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/034,836

03/04/98

RAMESH

R

42941

RUPERT B HURLEY
W R GRACE AND CO CONN
P O BOX 464
DUNCAN SC 29334

IM62/0104

EXAMINER

ZACHARIA, R

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

~~01/04/2001~~

REC'D JAN 8 2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/034,836

Applicant(s)

Ramesh et al.

Examiner

Ramsey Zacharia

Group Art Unit

1773



☒ Responsive to communication(s) filed on Oct 11, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-8, 11-19, and 28-39 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8, 11-19, and 28-39 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 1773

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Prosecution Application

2. The request filed on October 11, 2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/034,836 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Objections

3. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 3 allows the fourth layer to be an amorphous polyester of a polyester having a melting point of from about 130 to about 260 °C. However, independent claim 1 limits polyesters of the fourth layer to those having a melting point of at least 190 °C. This objection can be overcome by limiting the material of the fourth layer in claim 3 to polyesters having a melting point of from 190 °C to about 260 °C.

Art Unit: 1773

Claim Rejections - 35 USC § 112

4. Claims 11 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 11 is rendered indefinite because it depends from a canceled claim, claim 10. For the purpose of examination, claim 11 is taken to depend from claim 1.

6. The phrase "less than about 10%" in claim 16 renders the claim indefinite because the metes and bounds of the claim are ill defined. The phrase "*less than X*", meaning any value ranging from zero to *X*, excluding *X*, is well defined if *X* is well defined. If *X* is not well defined, then the phrase is indefinite because it is unclear which value is to be excluded from the range. In the instant case, deleting the word "about" from the phrase is sufficient to overcome this rejection and would limit the haze of the film to values less than 10%.

Claim Rejections - 35 USC § 103

7. Claims 1-8, 11-19, and 28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al. (U.S. Patent 6,146,726).

Yoshii et al. teach a heat-shrinkable multi-layer film used as a packaging material (column 1, lines 4-17). The film comprises an outermost (A) layer, a core (B) layer and an innermost (C) layer (column 2, lines 48-53). Moreover, intermediate layers (D1) and (D2) may be added between layers (A) and (B) and layers (B) and (C), respectively (column 2, line 61-

Art Unit: 1773

column 3, line 5). Layer (C), corresponding to the first layer of the claimed invention, comprises a substantially linear ethylene-1-octene copolymer obtained using a metallocene catalyst (column 3, lines 38-54). The melting point of the ethylene-1-octene copolymer used in the Examples were in the range of 89 to 121 °C (Table 1). Metallocene catalyzed polyolefin would result in a homogeneous polyolefin while linear low density polyethylene is a heterogenous ethylene/ α -olefin copolymer (see page 15, line 26-page 16, line 4 of the instant specification). Layer (C) may further comprise another polyolefin material such as conventionally produced LLDPE, i.e. ethylene/ α -olefin (column 6, lines 25-52). Layer (A), corresponding to the fourth layer of the claimed invention, may comprise an aliphatic nylon polyamide or polyethylene terephthalate copolymerized with cyclohexanediol or isophthalic acid (column 7, line 45-65). Polyethylene terephthalate copolymerized with cyclohexanediol is taken to be an amorphous polyester since it appears to be the same material as that of Polyester #1 of the instant application (see paragraph bridging pages 35 and 36 of instant specification). Layer (B), corresponding to the fifth layer of the claimed invention, is a gas barrier layer that may comprise EVOH (see (i) examples and column 8, lines 21-52). Intermediate layers (D1) and (D2), corresponding to the 6th and 3rd layers of the claimed invention, may comprise polyesters such as Co-PET (column 9, lines 17-21). The film may comprise crosslinked layers for improved stretchability (column 9, lines 27-50). The thickness of the films is generally 10-200 μ m, about 0.4 to 8 mils, (column 11, lines 59-64) with the film of the embodiment of Example 1 being about 2 mil thick. Adhesive layers may be added between any of the layers, with ethylene/vinyl acetate copolymer as a suitable adhesive

Art Unit: 1773

material (column 9, lines 51-62). An adhesive layer placed between the (C) layer and the (D2) layer would correspond to the second layer of the instant invention.

Although Yoshii et al. does not specifically disclose an embodiment wherein an adhesive layer is placed between the (C) layer and the (D2) layer, there is a direct teaching that adhesive layers may be placed between any of the layers. Therefore, the Examiner takes the position that it would have been obvious to employ an adhesive layer between the (C) layer and the (D2) layer to improve the inter-laminar strength of the laminate given the reasonable expectation of equivalent results and absent a showing of criticality.

Regarding claim 4, aliphatic nylon polyamides are taken to be either amorphous or have a melting point of from about 130 °C to about 250 °C, since such polyamides are cited among the preferred polyamides by the instant specification (see page 28, lines 11-18).

Regarding claim 5, although Yoshii et al. does not give the specific amount of terephthalate units in the Co-PET, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the composition of the copolyester, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 13, 14, and 30-34, Yoshii et al. teach that the (C) layer should be at least 15% of the total thickness. However, Yoshii et al. does not specifically teach the relative thicknesses of each of the other layers. The Examiner takes the position that it would have been

Art Unit: 1773

obvious to optimize the relative thicknesses of the individual layers, provided that the (C) layer comprised at least 15% of the total thickness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 36, although Yoshii et al. does not give the specific amount of vinyl acetate in the ethylene-vinyl acetate copolymer, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the composition of the copolymer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Moreover, although Yoshii et al. is silent with respect to the haze, gloss, impact strength and total free shrink at 185 °F, the film of Yoshii et al. is taken to meet the properties as claimed since it comprises similar materials. Furthermore, properties, including clarity and impact strength, are said to be excellent in the film of Yoshii et al. (column 1, lines 4-17).

Therefore, the inventions of claims 1-8, 11-19, and 28-39 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Art Unit: 1773

Double Patenting

8. Claims 1, 2, 4, 6-8, 11, 13-16, 18, 19, 28, 30-34, and 37-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 5,843,502 in view of Mueller et al. (U.S. Patent 4,274,900) for the reasons outlined in Paper no. 13.

9. Claims 17 and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 5,843,502 in view of Mueller et al. (U.S. Patent 4,274,900) and Bekele (U.S. Patent 5,482,770) for the reasons outlined above in Paper no. 13.

Response to Arguments

10. Applicant's arguments with respect to claims 1-8, 11-19, and 28-39 have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the

Art Unit: 1773


organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

REZ

Ramsey Zacharia

January 2, 2001


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700

Notice of References Cited		Application No. 09/034,836		Applicant(s) Ramesh et al.	
		Examiner Ramsey Zacharia		Group Art Unit 1773	
Page 1 of 1					

U.S. PATENT DOCUMENTS						
	DOCUMENT NO.	DATE	NAME		CLASS	SUBCLASS
A	6,146,726	11/2000	Yoshii et al.		428	35.9
B						
C						
D						
E						
F						
G						
H						
I						
J						
K						
L						
M						

FOREIGN PATENT DOCUMENTS						
	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS		
	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
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PATENTS, WASHINGTON, D.C. 20236, ON:

May 4, 2001

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.
Registration No. 29,313

May 4, 2001
DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et. Al.

Attorney Docket No.: D-42941-01

Serial No : 09/034,836

Group Art Unit: 1773

Filing Date: March 4, 1998

Examiner: Zacharia, R.

For: HEAT-SHRINKABLE MULTILAYER PACKAGING FILM COMPRISING INNER
LAYER COMPRISING A POLYESTER

AMENDMENT UNDER 37 CFR 1.111

Commissioner for Patents
Washington, DC 20231

Sir:

This Amendment is filed in response to the office action mailed 4 January 2001, the period for response to which is extended one month, i.e., through 4 May 2001, by the concurrently-filed request for a one-month extension of time under 37 CFR 1.136(a). Applicants respectfully request reconsideration of the patentability of the claims in view of the Amendment and Remarks provided hereinbelow.

42941-01.A03

amendment is being made at the Examiner's suggestion. Accordingly, both rejections under §112 second paragraph should be withdrawn. The claims as amended are supported by the specification as filed. The amendments contain no new matter. A marked-up copy of the amended claims is provided herewith.

II. The Rejection of Claims 1-8, 11-19, and 29-38 as Obvious over YOSHII et al

In Paragraph 7 of the 4 January 2001 Office Action, Claims 1-8, 11-19, and 29-38 are rejected under 35 USC 103(a) as unpatentable over US Patent No. 6,146,726, to Yoshii et al ("YOSHII et al"). The Office Action states that YOSHII et al teaches a heat-shrinkable packaging film having an outermost layer comprising an aliphatic polyamide (both amorphous and with melting point) or polyester, a core oxygen barrier layer which may comprise EVOH, an innermost seal layer comprising substantially linear ethylene-octene copolymer, and intermediate layers containing polyesters such as Co-PET. The Office Action goes on to discuss various additional features of the film of YOSHII et al, such as crosslinked polymer structure, film thickness, adhesive layers, and seal layer having a thickness of at least 15%, based on total film thickness.

In response, Applicants contend that Claims 1-8, 11-19, and 29-38 are patentable over YOSHII et al. Applicants direct attention to the fact that all of the pending claims recite the polyester in the fourth layer, which is also an outer layer, as having a melting point of at least 190°C, while at the same time reciting both the third and sixth layers as comprising a polyester having a melting point of from 130°C to less than 190°C. In other words, in Applicants' claimed film the outer layer comprises a polyester having a higher melting point than the polyester the inner

42941-01.A03

layers (i.e., third and sixth layers). In Applicants' invention, the outer layer comprises a high melting polyester so that the resulting article can be stack sealed. Stack sealing is the simultaneous sealing of two bags stacked on top of one another. The higher melting polyester in the outer layer enables a hot seal bar to contact the outside layer of the bag film, to melt the inside layer of the film to seal the bag shut. If the outside layer had too low a melting point, it would cause the stacked bags to fuse together during sealing. On the other hand, it has been found that the lower melting polyester in the inner layers assists in enabling the orientation of the high melting outer polyester layer, so that the film can be heat-shrinkable, as recited in the claims.

In stark contrast, YOSHII et al discloses:

Even when a thermoplastic polyester resin such as polyethylene terephthalate (PET), polybutylene terephthalate (PBT) or Co-PET is used as the intermediate layer, the low-temperature strength and heat resistance of the resulting multi-layer film are improved. [YOSHII et al, Col. 9 lines 17-21]

Applicants contend that one of ordinary skill in the art would readily realize that the above-quoted excerpt from YOSHII et al is teaching the use of high melting point PET and high melting point Co-PET for the *intermediate* layers. In other words, the high melting point PET or high melting point Co-PET would not be needed to provide "heat resistance" if the outermost layer (A) of YOSHII et al was made from a yet *higher* melting polyester resin. In such a case, the higher melting polyester of the outside layer would provide the "heat resistance."

However, Applicants claims recite a higher melting polyester in the outer fourth layer than in the inner third and sixth layers. Clearly, YOSHII et al is teaching away from this particular melt

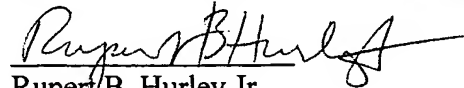
point arrangement of different polyesters in the outermost layer and intermediate layers. While Applicants' claimed film requires a higher melting polyester in the outside layer (to permit stack sealing without stacked films adhering to one another), YOSHII et al teaches in the opposite direction, i.e., to include in the intermediate layers a polyester having a melting point as high as, or higher than, the Co-PET of the outermost layer. Indeed, Col. 7 line 66 through Col 8 line 2 of YOSHII et al teaches the use of a Co-PET resin in the outermost layer when heat resistance is required, and thereafter (Col 9 lines 17-21) further teaches the need for PET or Co-Pet in the intermediate layers to improve "low temperature strength and heat resistance."

While most of the examples in YOSHII et al do not teach a film containing a polyester, in Example 5 of YOSHII et al a film is used which has a Co-PET outermost layer and a polyamide 6.66 intermediate layer. Although the melting point of the BELL PET IFG-8L Co-PET of the outermost layer is not provided in YOSHII et al, the AMILAN CM6241 polyamide 6.66 used in the intermediate layer should have a melting point of about 200°C (because that is the melting point of polyamide 6.66), which is substantially higher than the 130°C to less than 190°C melting point of the polyester in the third and sixth layers of Applicants' claimed film. Thus, the only example in YOSHII et al supports the argument presented above, i.e., the argument that YOSHII et al is teaching the use of a relatively high melting polymer in the intermediate layer(s), in contrast to Applicants' claimed film.

III. Conclusion

The pending claims, as amended above, are included as an attachment hereto. In view of all of the foregoing amendments and arguments, it is respectfully submitted that Claims 1-8, 11-19, and 28-39 are patentable over the prior art of record, and in condition for allowance.

Respectfully submitted,



Rupert B. Hurley Jr

Reg. No. 29,313

(864)433-3247

Attachments: Appendix: Amended Claims 11 and 16

Appendix

(Amendments to Claims 11 and 16)

Claim 11. (Once Amended) 11. The heat-shrinkable film according to Claim [10] 1, further comprising:

a seventh layer which is a tie layer, the seventh layer being between the second layer and the third layer; and

an eighth layer which is a tie layer, the eighth layer being between the fourth layer and the sixth layer.

16. (Once Amended) The heat-shrinkable film according to Claim 1, wherein the film has a haze of less than [about] 10%, as measured by ASTM D1003.

COPY



UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231



APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/034,836 03/04/98 RAMESH

R 42941

IM22/0709

EXAMINER

RUPERT B HURLEY
W R GRACE AND CO CONN
P O BOX 464
DUNCAN SC 29334

ZACHARIA, R

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

REC'D JUL 12 2001

~~07/09/01~~

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

Office Action Summary

Application No.
09/034,836

Applicant(s)

Ramesh et al.

Examiner

Ramsey Zacharia

Art Unit

1773



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 8, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-19, and 28-39 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-19, and 28-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

Art Unit: 1773

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

2. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 3 allows the fourth layer to be an amorphous polyester of a polyester having a melting point of from about 130 to about 260 °C. However, independent claim 1 limits polyesters of the fourth layer to those having a melting point of at least 190 °C. This objection can be overcome by limiting the material of the fourth layer in claim 3 to polyesters having a melting point of from 190 °C to about 260 °C.

Claim Rejections - 35 USC § 103

3. Claims 1-8, 11-19, and 28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al. (U.S. Patent 6,146,726).

Yoshii et al. teach a heat-shrinkable multi-layer film used as a packaging material (column 1, lines 4-17). The film comprises an outermost (A) layer, a core (B) layer and an

Art Unit: 1773

innermost (C) layer (column 2, lines 48-53). Moreover, intermediate layers (D1) and (D2) may be added between layers (A) and (B) and layers (B) and (C), respectively (column 2, line 61-column 3, line 5). Layer (C), corresponding to the first layer of the claimed invention, comprises a substantially linear ethylene-1-octene copolymer obtained using a metallocene catalyst (column 3, lines 38-54). The melting point of the ethylene-1-octene copolymers used in the Examples were in the range of 89 to 121 °C (Table 1). Layer (C) may further comprise another polyolefin material such as conventionally produced LLDPE, i.e. ethylene/alpha-olefin (column 6, lines 25-52). Metallocene catalyzed polyolefin would result in a homogeneous polyolefin while linear low density polyethylene is a heterogeneous ethylene/ α -olefin copolymer (see page 15, line 26-page 16, line 4 of the instant specification). Layer (A), corresponding to the fourth layer of the claimed invention, may comprise an aliphatic nylon polyamide or polyethylene terephthalate copolymerized with cyclohexanediol or isophthalic acid (column 7, line 45-65). Polyethylene terephthalate copolymerized with cyclohexanediol is taken to be an amorphous polyester since it appears to be the same material as that of Polyester #1 of the instant application (see paragraph bridging pages 35 and 36 of instant specification). Layer (B), corresponding to the fifth layer of the claimed invention, is a gas barrier layer that may comprise EVOH (see (i) examples and column 8, lines 21-52). Intermediate layers (D1) and (D2), corresponding to the 6th and 3rd layers of the claimed invention, may comprise polyesters such as Co-PET (column 9, lines 17-21). The film may comprise crosslinked layers for improved stretchability (column 9, lines 27-50). The thickness of the films is generally 10-200 μm , about 0.4 to 8 mils, (column 11, lines 59-

Art Unit: 1773

64) with the film of the embodiment of Example 1 being about 2 mil thick. Adhesive layers may be added between any of the layers, with ethylene/vinyl acetate copolymer as a suitable adhesive material (column 9, lines 51-62). An adhesive layer placed between the (C) layer and the (D2) layer would correspond to the second layer of the instant invention.

Although Yoshii et al. does not specifically disclose an embodiment wherein an adhesive layer is placed between the (C) layer and the (D2) layer, there is a direct teaching that adhesive layers may be placed between any of the layers. Therefore, the Examiner takes the position that it would have been obvious to employ an adhesive layer between the (C) layer and the (D2) layer to improve the inter-laminar strength of the laminate.

Regarding claim 4, aliphatic nylon polyamides are taken to be either amorphous or have a melting point of from about 130 °C to about 250 °C, since such polyamides are cited among the preferred polyamides by the instant specification (see page 28, lines 11-18).

Regarding claim 5, Yoshii et al. does not give the specific amount of terephthalate units in the Co-PET. In the absence of a showing of criticality or unexpected results, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the composition of the copolyester, since it has been held that where the general conditions of a claim are disclosed (i.e. a polymer of ethylene terephthalate copolymerized with cyclohexanediol or isophthalic acid) in the prior art, discovering the optimum or workable ranges (in this case the relative amount of comonomer to

Art Unit: 1773

use with the polyethylene terephthalate) involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 13, 14, and 30-34, Yoshii et al. teach that the (C) layer should be at least 15% of the total thickness. However, Yoshii et al. does not specifically teach the relative thicknesses of each of the other layers. In the absence of a showing of criticality or unexpected results, the Examiner takes the position that it would have been obvious to optimize the relative thicknesses of the individual layers, provided that the (C) layer comprised at least 15% of the total thickness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 36, Yoshii et al. does not give the specific amount of vinyl acetate in the ethylene-vinyl acetate copolymer. In the absence of a showing of criticality or unexpected results, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the composition of the copolymer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Moreover, although Yoshii et al. is silent with respect to the haze, gloss, impact strength and total free shrink at 185 °F, the film of Yoshii et al. is taken to meet the properties as claimed

Art Unit: 1773

since it comprises similar materials. Furthermore, properties, including clarity and impact strength, are said to be excellent in the film of Yoshii et al. (column 1, lines 4-17).

Therefore, the inventions of claims 1-8, 11-19, and 28-39 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Response to Arguments

4. Applicant's arguments filed May 8, 2001 have been fully considered but they are not persuasive.

The Applicants argues that all of the pending claims recite the polyester in the fourth layer as having a melting point of at least 190 °C while at the same time reciting both the third and sixth layers as comprising a polyester having a melting point of from 130 °C to less than 190 °C. In other words that the outer layer comprises a polyester having a higher melting point than the polyester of the inner layers. The Applicants cite a passage of Yoshii et al. and contend that, Yoshii et al. is teaching the use of high melting point PET and Co-PET for the intermediate layers as a means for providing heat resistance. Therefore, the Applicants argue that the outermost layers of Yoshii et al. do not comprise a polyester with a higher melting point than the intermediate layer, since if this were the case, the outer layer and not the intermediate layer would be provide the heat resistance.

This is not persuasive for the following reasons. First, the arguments are not commensurate in scope with the claims since the claims to not require the fourth layer to

No.
Art. 2.1
require the 4th
L to comp Pet
having mp > 190°C

Art Unit: 1773

comprise a polyester having a melting point of at least 190 °C, but also allow the fourth layer to comprise a polyamide or polyurethane. Therefore, the invention as claimed is not limited to films wherein the melting temperature of the fourth layer is higher than that of the 3rd and 6th layers. Second, the intermediate layers of Yoshii et al. are designed to enhance the low temperature strength and heat resistance of the film. Therefore, it follows that a material having a high melting point would not be required since the purpose of the layer is to enhance physical properties at low temperature. Finally, with regards to the embodiments presented in the Examples of Yoshii et al., a reference is not limited to the disclosed embodiments but must be taken as a whole.

NO.
Both exc
low temp str.
AND heat-
resistance
preferred. . .

Furthermore, upon reconsideration and in light of the amendment filed October 11, 2000, the obviousness-type double patenting rejections over Patent No. 5,843,502 have been withdrawn.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 1773

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

D. S. Nakarani
D. S. NAKARANI
PRIMARY EXAMINER

RZ

Ramsey Zacharia

July 3, 2001

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Jan 8, 2002

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.
Registration No. 29,313

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Ramesh et al.	Group Art Unit: 1773
Serial No.:	09/034,836	Examiner: Zacharia R.
Filing Date:	March 4, 1998	Att'y Docket No.: D-42941-01
Title:	"HEAT SHRINKABLE MULTI-LAYER PACKAGING FILM COMPRISING A POLYESTER"	

NOTICE OF APPEAL UNDER 37 CFR 1.191

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action dated 09 July, 2001, Applicants, pursuant to 37 CFR 1.191, hereby appeals the rejection of Claims 1-5 and 12-15. The Commissioner is authorized to charge the 37 CFR 1.17(e) fee of \$320.00 to Deposit Account No. 07-1765. If any further amount is deemed to be due, the Commissioner is authorized to charge Deposit Account No. 07-1765 in the appropriate amount.

Respectfully submitted,

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.
Attorney for Applicants
Registration No. 29,313
(864) 433-3247

Cryovac, Inc.
Law Department
P.O. Box 464
Duncan, SC 29334

DATE

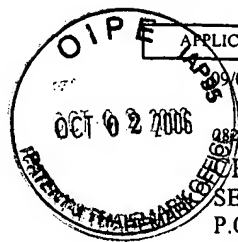


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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/034,836	03/04/1998	RAM K. RAMESH	42941	3875

08236 7590 09/20/2002

RYOVAC, INC.
SEALED AIR CORP
P.O. BOX 464
DUNCAN, SC 29334

EXAMINER

ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 22

Notice of Abandonment	Application No.	Applicant(s)	
	09/034,836	RAMESH ET AL.	
	Examiner	Art Unit	
	Ramsey Zacharia	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on 09 July 2001.
 - (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
 - (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
 - (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
 - (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
 - (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
 - (b) ☐ The submitted fee of \$_____ is insufficient. A balance of \$_____ is due.
The issue fee required by 37 CFR 1.18 is \$_____. The publication fee, if required by 37 CFR 1.18(d), is \$_____.
 - (c) ☐ The issue fee and publication fee, if applicable, has not been received.


3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
 - (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
 - (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☐ The reason(s) below:


 Paul Thibodeau
 Supervisory Patent Examiner
 Technology Center 1700

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

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December 13, 2002

Rupert B. Hurley Jr.

Rupert B. Hurley Jr.
Registration No. 29,313

Dec 13, 2002
DATE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et. Al.

Attorney Docket No.: D-42941-01

Serial No : 09/034,836

Group Art Unit: 1773

Filing Date: March 4, 1998

Examiner: Zacharia, R.

For: HEAT-SHRINKABLE MULTILAYER PACKAGING FILM COMPRISING INNER
— LAYER COMPRISING A POLYESTER —

AMENDMENT UNDER 37 CFR 1.111

Commissioner for Patents
Washington, DC 20231

Sir:

This Amendment is filed concurrently with the filing of a petition for revival of an unintentionally abandoned application. Applicants respectfully request reconsideration of the patentability of the claims in view of the Amendment and Remarks provided hereinbelow.

42941-01.A03

AMENDMENT

IN THE CLAIMS

Kindly amend the claims, as follows:

1. A heat-shrinkable multilayer film comprising:

- (A) a first layer, which is an outer layer, and which comprises polyolefin;
- (B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;
- (C) a third layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C;
- (D) a fourth layer, which is an outer layer, the fourth layer comprising polyester having a melting point of at least 190°C;
- (E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and
- (F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer.

3. The heat-shrinkable film according to Claim 1, wherein the third layer comprises an amorphous polyester and the fourth layer comprises [at least one member selected from the group consisting of amorphous polyester and] polyester having a melting point of from 190°C to about 260°C.

39. A heat-shrinkable multilayer film comprising:

- (A) a first layer, which is an outer layer, and which comprises polyolefin;

42941-01.A03

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of polyester having from about 70 to 85 mole percent terephthalate mer units;

(D) a fourth layer, which is an outer layer, the fourth layer comprising polyester having a melt point of from 130°C to 260°C and greater than 85 mole percent terephthalate mer units;

(E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and

(F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having from about 70 to 85 mole percent terephthalate mer units, the sixth layer being between the fourth layer and the fifth layer.

REMARKS

I. The Pending Claims, the Amendments to the Claims, and the Objection to Claim 3

With the entry of the amendment set forth above, Claims 1-8, 11-19, and 28-39 remain pending. Claims 1 and 39 are the only pending independent claims. Claims 2-8, 11-19, and 28-38 are the pending dependent claims.

Claim 1 has been amended to recite the fourth layer as comprising a polyester having a melting point of at least 190°C, i.e., polyamide and polyurethane have been deleted from the group of recited polymers. Claim 3 has been amended by deletion of amorphous polyester and by amended the description of the crystalline polyester as a polyester having a melting point of from 190°C to 260°C. Support for both these amendments can be found in the specification at, for 42941-01.A03

example, Page 3 lines 19-26 and Page 4 lines 9-19. In paragraph 2 of the 9 July Office Action, Claim 3 was objected to as in improper dependent form for depending from Claim 1 while reciting a polyester having a melting point of 130 to 260°C. The Examiner suggested that Claim 3 be amended to recite from 190°C to about 260°C. This amendment having been made, Applicants respectfully suggest withdrawal of the objection to Claim 3.

In addition, Claim 39 has been amended to recite the fourth layer as comprising a polyester having greater than 85 mole percent terephthalate mer units, i.e., amorphous polyester has been deleted from the group of recited polymers. Support for this amendment can be found in the specification at, for example, Page 27 line 26 through Page 28 line 2. Claim 39 is also amended by the addition of the recitation of the polyester having a melting point of from 130°C to 260°C, in accordance with the specification at Page 4 lines 9-19.

The amendments include no new matter. A marked-up copy of the amended claims is provided in the Appendix below.

II. The Rejection of Claims 1-8, 11-19, and 29-38 as Obvious over YOSHII et al

In Paragraph 3 of the 9 July Office Action, Claims 1-8, 11-19, and 29-38 are rejected under 35 USC 103(a) as unpatentable over US Patent No. 6,146,726, to Yoshii et al ("YOSHII et al"). In particular with respect to the above amendments, the Office Action states that YOSHII et al teaches a heat-shrinkable packaging film having an outermost (A) layer which comprises "an aliphatic nylon polyamide or polyethylene terephthalate copolymerized with cyclohexanediol or isophthalic acid. The Office Action further states that polyethylene terephthalate copolymerized with

42941-01.A03

cyclohexanediol or isophthalic acid *is taken to be amorphous polyester* since it appears to be the same material as that of Applicants' Polyester #1.

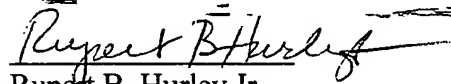
Applicants contend that as amended, all of the pending claims are patentable over YOSHII et al. Claim 1, as amended above, recites the fourth layer as an outer layer which comprises a polyester having a melting point of at least 190°C. As such, this polyester is clearly not amorphous, because it has a melting point. Likewise, Claim 39, as amended hereinabove, recites the polyester in the fourth layer as having a melting point of from 130 to 260°C, i.e., also specifying that the polyester is crystalline in that it has a melting point. This is in direct contrast to the disclosure of polyethylene terephthalate copolymerized with cyclohexanediol or isophthalic acid in YOSHII et al which is referred to in the Office Action.

In addition, Applicants contend that YOSHII et al does not teach or suggest Applicants' recited outer layer comprising a polyester having a melting point of at least 190°C *in combination with* an inner layer comprising polyester which (a) is amorphous, or (b) has a lower melting point than the polyester of the outer layer, as recited in Applicants' Claim 1, as amended. Similarly, Applicants contend that YOSHII et al does not teach or suggest Applicants' recited outer layer comprising a polyester having greater than 85 % terephthalate mer units *in combination with* an inner film layer comprising a polyester having from 70 to 85% terephthalate mer units, as recited in Applicants' Claim 39, as amended. As a result, Applicants contend that all of the pending claims are patentable over YOSHII et al.

III. Conclusion

In view of all of the foregoing amendments and arguments, it is respectfully submitted that Claims 1-8, 11-19, and 28-39, as amended herein, are patentable over the prior art of record, and in condition for allowance.

Respectfully submitted,



Rupert B. Hurley Jr

Reg. No. 29,313

(864)433-3247

Attachments: Appendix: Amended Claims 11 and 16

Appendix

(Amendments to Claims 1, 3, and 39)

1. (Three Times Amended) A heat-shrinkable multilayer film comprising:

(A) a first layer, which is an outer layer, and which comprises polyolefin;

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C;

(D) a fourth layer, which is an outer layer, the fourth layer comprising [at least one member selected from the group consisting of] polyester having a melting point of at least 190°C; [, polyamide and polyurethane;]

(E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and

(F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer.

3. (Once Amended) The heat-shrinkable film according to Claim 1, wherein the third layer comprises an amorphous polyester and the fourth layer comprises [at least one member selected from the group consisting of amorphous polyester and] polyester having a melting point of from [about 130°C] 190°C to about 260°C.

39. (Twice Amended) A heat-shrinkable multilayer film comprising:

(A) a first layer, which is an outer layer, and which comprises polyolefin;

(B) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;

(C) a third layer comprising at least one member selected from the group consisting of polyester having from about 70 to 85 mole percent terephthalate mer units; [and amorphous polyester;]

(D) a fourth layer, which is an outer layer; the fourth layer comprising [at least one member selected from the group consisting of] polyester having a melt point of from 130°C to 260°C and greater than 85 mole percent terephthalate mer units; [, polyamide and polyurethane;]

(E) a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH; and

(F) a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having from about 70 to 85 mole percent terephthalate mer units, the sixth layer being between the fourth layer and the fifth layer.

III. Conclusion

In view of all of the foregoing amendments and arguments, it is respectfully submitted that Claims 1-8, 11-19, and 28-39, as amended herein, are patentable over the prior art of record, and in condition for allowance.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Rupert B. Hurley Jr.", is written over a horizontal line.

Rupert B. Hurley Jr
Reg. No. 29,313
(864)433-3247

Attachments: Appendix: Amended Claims 1, 3, and 39

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December 13, 2002
Rupert B. Hurley Jr.
Rupert B. Hurley Jr.
Registration No. 29,313
Dec 13, 2002
DATE

BOX DAC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Ramesh, et al)	Atty Docket No.: D-42941-01
Serial No.	09/034,836)	Office of the Deputy Assistant
Filed:	March 4, 1998)	Commissioner for Patents
For:	Heat-Shrinkable Multilayer)	OFFICE OF PETITIONS
	Packaging Film Comprising)	Crystal Park One
	Inner Layer Comprising A)	Suite 520
	Polyester)	

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT
UNINTENTIONALLY ABANDONED UNDER 37 CFR 1.137(a) or (b)

Box DAC
Commissioner for Patents
Washington, DC 20231

The above-identified application became abandoned for failure to file a Brief on Appeal within the statutory period of two months from the mailing date of the Notice of Appeal of January 8, 2002. Applicant hereby petitions for revival of this application.

Applicant hereby states that the failure to file the Brief on Appeal, and the resulting abandonment, was unintentional. The abandonment occurred due to a typographical error in an electronic based docketing system. Please charge Deposit Account 07-1765 for any fees that may be required.

The entire delay in filing the required reply or other required action, from the due date for the reply or other action, until the filing of a grantable petition pursuant to paragraph 37 CFR 1.137(b) was unintentional.

An RCE and an Amendment under 1.111 is filed herewith.

Any comments or questions can be directed to Applicants' undersigned attorney at telephone number (864) 433-3247.

CRYOVAC, INC.
P. O. Box 464
Duncan, SC 29334
(864) 433-3247

Dec 13, 2002
DATE

Respectfully submitted,

Rupert B. Hurley Jr.
Rupert B. Hurley Jr.
Registration No. 29,313

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Mail Stop RCE
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

28236

PATENT

Docket No.

D-42941-02

REQUEST FOR CONTINUED EXAMINATION (RCE) Pursuant to 37 C.F.R. § 1.114

TRANSMITTAL

This is a Request for continued Examination (RCE) under 37 C.F.R. § 1.114 for the above-identified application.

Application no. 10/041,129 filed on July 23, 2003

of Ramesh et al
Group Art Unit: 3721

Examiner: Gerrity

entitled Heat-Shrinkable Multilayer Packaging Film Comprising Inner Layer Comprising A Polyester

Submission required under 37 C.F.R. § 1.114:

a. ☐ Previously submitted

i. ☐ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on _____
(Any unentered amendment(s) referred to above will be entered).

ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

iii. ☐ Other Preliminary Amendment

b. ☒ Enclosed

i. ☒ Preliminary Amendment

ii. ☒ PTO 1449

2. Miscellaneous

a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103 for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.117(f) required)

b. ☐ Other _____

3. Fees The RCE fee under 37 C.F.R. § 1.117(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.

a. The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 07-1765.

i. ☒ RCE fee required under 37 C.F.R. § 1.17 (e) _____

ii. ☐ Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)

iii. ☐ Other _____

☒ The USPTO is authorized to charge the amount shown above to Deposit Account No. 07-1765. Also, during the pendency of this application, please charge any fees incurred and credit any overpayments made to that same Deposit Account.

☒ Kindly address all correspondence relating to this application to the undersigned attorney at the following address:
Cryovac, Inc.
P.O. Box 464
Duncan, SC 29334

Registration Number	Telephone Number
29,313	(864) 433-3247
Date	
8/25/06	

Signature
<i>Rupert B. Hurley Jr.</i>
Print Name
Rupert B. Hurley Jr.

Certificate of Mailing

☒ Under 37 C.F.R. § 1.10, I certify that this application is being deposited, on the date indicated below, with the United States Postal Service addressed to the Mail Stop RCE, Commissioner for Patents, Alexandria, VA 22313-1450

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August 25, 2006 =

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMESH et. al.

Attorney Docket No.: D-42941-02

Serial No : 10/041,129

Group Art Unit: 3721

Filing Date: July 23, 2003

Examiner: S.F. Gerrity

For: HEAT-SHRINKABLE MULTI-LAYER PACKAGING FILM COMPRISING INNER
LAYER COMPRISING A POLYESTER

PRELIMINARY AMENDMENT

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

This Preliminary Amendment is filed concurrently with the filing of an Request for Continuing Examination, which is filed on or before the 25 August 2006 deadline for the payment of the Issue Fee. An Information Disclosure Statement is filed concurrently herewith. Applicants respectfully request entry of this amendment, as well as further consideration of the patentability of the claims, including the new claims submitted herewith. Kindly amend the claims in accordance with the following Listing of the Claims.

42941-02.A03

LISTING OF THE CLAIMS

Claim 22 (previously presented): A process for packaging a product, comprising the steps of:

(A) placing a first product into a flexible, heat-shrinkable bag, the bag having an open top, whereby a first bagged product having excess bag length results, and wherein the bag comprises a heat-shrinkable multilayer film comprising:

- (1) a first layer, which is an inside bag layer, and which comprises polyolefin;
- (2) a second layer comprising at least one member selected from the group consisting of polyolefin, polystyrene, and polyurethane;
- (3) a third layer comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to about 260°C; and
- (4) a fourth layer, which is an outside bag layer, the fourth layer comprising at least one member selected from the group consisting of polyester, polyamide, polypropylene and polyurethane; and

wherein the bag is produced by sealing the first layer to itself, whereby the first layer is an inside bag layer and the fourth layer is an outside bag layer;

(B) repeating the placing step with a second product and a second bag, whereby a second bagged product results;

(C) stacking at least the first and second bagged products so that the excess bag length of each of the bagged products are on top of one another and within a sealing distance of a means for heat-sealing;

42941-02.A03

(D) heat-sealing the inside layer of first bag to itself in the region between the open end of the first bag and the product, and the inside layer of the second bag to itself in the region between the open end of the second bag and the product, so that the first product is completely sealed within the first bag and the second product is completely sealed with the second bag, the sealing being carried out at a temperature so that the resulting packaged products can be freely separated from one another without layer delamination.

Claim 23 (previously presented): The process according to Claim 22, wherein the second layer has a thickness of from about 5 to about 50%, based on the thickness of the heat-shrinkable multilayer film.

Claim 24 (previously presented): The process according to Claim 22, wherein the heat-shrinkable film further comprises a fifth layer which serves as an O₂-barrier layer, the fifth layer comprising at least one member selected from the group consisting of EVOH, PVDC, polyalkylene carbonate, polyamide, and polyethylene naphthalate.

Claim 25 (previously presented): The process according to Claim 22, wherein the process is carried out in a rotary chamber vacuum machine.

Claim 26 (previously presented): The process according to Claim 25, wherein 2 bagged products are stacked on top of one another during heat-sealing.

42941-02.A03

Claim 27 (previously presented): The process according to Claim 22, wherein from 2 to 5 bagged products are stacked on top of one another during heat-sealing.

Claim 28 (previously presented): The process according to Claim 22, further comprising evacuating the first and second bags after they are stacked but before they are sealed.

Claim 29 (previously presented): The process according to Claim 22, wherein the first bag and the second bag are made from films having the same multilayer structure and composition.

Claim 30 (previously presented): The process according to Claim 22, wherein the film has a total free shrink, at 185°F, of from about 40 to 170 percent.

Claim 31 (previously presented): The process according to Claim 22, wherein the third layer comprises an amorphous polyester and the fourth layer comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to about 260°C.

Claim 32 (previously presented): The process according to Claim 22, wherein the fourth layer comprises at least one member selected from the group consisting of amorphous polyamide and polyamide having a melting point of from about 130°C to about 260°C.

Claim 33 (previously presented): The process according to Claim 22, wherein the fourth layer comprises a polyester having from about 70 to 95 mole percent terephthalate mer units.

Claim 34 (previously presented): The process according to Claim 22, wherein the film has a gloss of at least 50 percent, as measured against the fourth layer by ASTM D2457.

Claim 35 (previously presented): The process according to Claim 22, wherein the film has a total thickness of from about 1 to about 5 mils.

Claim 36 (previously presented): The process according to Claim 35, wherein the film has a total thickness of from about 1.5 to about 3 mils.

Claim 37 (previously presented): The process according to Claim 22, wherein the film further comprises a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising at least one member selected from the group consisting of EVOH, PVDC, polyalkylene carbonate, polyamide, and polyethylene naphthalate.

Claim 38 (previously presented): The process according to Claim 37, further comprising a sixth layer which comprises at least one member selected from the group consisting of polyester and polyamide, the sixth layer being between the fourth layer and the fifth layer.

Claim 39 (previously presented): The process according to Claim 37, wherein the first layer comprises ethylene/alpha-olefin copolymer; the second layer comprises ethylene/vinyl acetate copolymer; the third layer comprises polyethylene terephthalate; the fourth layer comprises polyethylene terephthalate; and, the fifth layer comprises EVOH.

Claim 40 (previously presented): The process according to Claim 37, wherein, based on total film thickness, the first layer has a thickness of from about 1 to 60 percent, the second layer has a thickness of from about 1 to 50 percent, the third layer has a thickness of from about 5 to 40 percent, the fourth layer has a thickness of from about 1 to 40 percent, and, the fifth layer has a thickness of from about 1 to 20 percent.

Claim 41 (previously presented): The process according to Claim 22, wherein the first layer comprises a blend of homogeneous ethylene/alpha-olefin copolymer and heterogeneous ethylene/alpha-olefin copolymer.

Claim 42 (previously presented): The process according to Claim 22, wherein the film comprises a crosslinked polymer network.

Claim 43 (previously presented): The process according to Claim 22, wherein the film has a total free shrink, at 185°F, of from about 60 to 150 percent; an impact strength of at least 60 Newtons, as measured by ASTM D3763; a gloss of at least 50 percent, as measured by ASTM D2457; and a haze of less than 10%, as measured by ASTM D1003.

Claim 44 (previously presented): The process according to Claim 22, wherein the first layer, consists essentially of at least one member selected from the group consisting of ethylene homopolymer, ethylene copolymer, propylene homopolymer, propylene copolymer, butene homopolymer, butene copolymer, polystyrene, polyamide, polyester, polyurethane, and starch-containing polymer.

Claim 45 (previously presented): The process according to Claim 44, wherein the first layer consists essentially of at least one member selected from the group comprising ethylene/alpha-olefin copolymer, ethylene/unsaturated ester copolymer, ethylene/unsaturated acid copolymer.

Claim 46 (previously presented): The process according to Claim 45, wherein the first layer consists essentially of homogeneous ethylene/alpha-olefin copolymer.

42941-02.A03

Claim 47 (new): The process according to Claim 22, wherein:

the third layer of the multilayer film comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C; and

the fourth layer of the multilayer film comprises at least one member selected from the group consisting of polyester having a melting point of at least 190°C, polyamide, and polyurethane.

Claim 48 (new): The process according to Claim 47, wherein the multilayer film further comprises a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH.

Claim 49 (new): The process according to Claim 48, wherein the multilayer film further comprises a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer.

Claim 50 (new): The process according to Claim 48, wherein the fourth layer comprises the polyester having a melting point of at least 190°C.

Claim 51 (new): The process according to Claim 49, wherein the fourth layer comprises the polyester having a melting point of at least 190°C.

REMARKS

I. The Reason for this RCE

A Notice of Allowance was mailed to the undersigned on 25 June 2006. During a review of the file in advance of payment of the Issue Fee, it was discovered that several prior art documents relied upon by the examiner of the parent application (i.e., USSN 09/034,836, of which the instant application is a divisional as the result of a PTO restriction requirement) were inadvertently and unintentionally not brought to the attention of the examiner during the prosecution of the instant application. As a result, Applicants are filing this RCE, including an IDS citing the prior art relied upon by the examiner of the parent application. Moreover, the IDS includes a copy of each of the various office actions on the merits for USSN 09/034,836, as well as Applicants' various amendments in response to those office actions. Also provided below are remarks in support of the patentability of Applicants' claims over this prior art.

II. The Pending Claims and the Amendments to the Claims

With the entry of the amendment set forth above, Claims 22-50 are pending. Claim 22 is the only pending independent claim. There are no amendments to Claims 22-46.

New Claim 47 depends from independent Claim 22 and recites the third layer of the multilayer film as comprising at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, and that the fourth layer of the multilayer film comprises at least one member selected from the group consisting of polyester having a melting point of at least 190°C, polyamide, and polyurethane. Support for 42941-02.A03

Claim 47 can be found in the specification at, for example, page 26 lines 3-10 and page 27 lines 19-25.

New Claim 48 recites the multilayer film as further comprising a fifth layer which serves as an O₂-barrier layer and which is between the third layer and the fourth layer, the fifth layer comprising EVOH. Support for Claim 48 can be found in the specification at, for example, Page 5 lines 11-14.

New Claim 49 recites the multilayer film as further comprises a sixth layer which comprises at least one member selected from the group consisting of amorphous polyester and polyester having a melting point of from about 130°C to less than 190°C, the sixth layer being between the fourth layer and the fifth layer. Support for Claim 49 can be found in the specification at, for example, page 5 lines 11-20 and page 29 lines 15-20.

New Claims 50 and 51 depend from different claims, but each recites the fourth layer as comprising polyester having a melting point of at least 190°C. Support for claims 50 and 51 can be found in the specification at, for example, page 27 lines 19-25.

The amendments include no new matter.

III. Remarks in Support of Patentability of Claims 22-51

Applicants point out that each of Claims 22-51 is directed to a process including the steps of stacking at least a first and second bagged products on top of one another and thereafter sealing the bags so that the each product is completely sealed within its respective bag, the sealing being carried out at a temperature so that the resulting packaged products can be freely

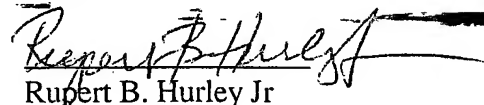
separated from one another without layer delamination. None of the various prior art documents included in the IDS submitted herewith teaches or suggests a stack sealing process. Accordingly, the prior art identified in the accompanying IDS does not set forth an anticipation of any one or more of Claims 22-51.

Moreover, in the parent application the PTO issued a restriction requirement. In issuing the restriction requirement, the PTO has taken the position that the film claims (examined in the parent application) are patentably distinct from the process claims. As such, all claims directed to the process are patentably distinct (i.e., patentable over) all prior art which teaches or suggests the film claimed in the parent application, so long as that prior art does not also teach or suggest the steps utilizing the packaging process recited in the patentably distinct process claims. In other words, in issuing the restriction requirement the PTO has gone on record with the position that the process claims, as filed in the parent application, are patentably distinct from the film claims, as filed in the parent application. Not only does this position limit the utility of art which does not teach or suggest the recited process steps, it also bars a double patenting rejection of the process claims over the article claims. Finally, Applicants further note that new Claims 47-51 recite various features placed into the independent Claim 1 of the parent application, which was granted as USPN 6,610,392 B1 on August 26, 2003.

IV. Conclusion

Applicants respectfully request entry of the above amendments to the claims, and consideration of the patentability of claims 22-51, with a view towards allowance.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Rupert B. Hurley Jr.", written over a horizontal line.

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